DOCUMENT RESUME

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TITLE	Geography: An Integrative Discipline: K-6. 1969-70 Final Report.
INSTITUTION	Santa Monica Unified School District, Calif.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
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IDENTIFIERS	ESEA Title III, *Santa Monica Geography Project

ABSTRACT

The Santa Monica Geography Project has been under development, field study, and implementation from 1963 to 1970. The program is discussed under four headings. 1) Instructional Techniques: Included are field experiences, the use of community resources, inquiry, and multimedia use. 2) Curriculum: Geography was chosen to integrate the concepts and skills of the social sciences, the physical sciences like geology, environmental education, and comparative studies. The concepts and program elements are listed by grade level in Appendix C. 3) Program Evaluation: The Narrative Report and Appendix B detail the objectives of the program and the extent to which these were met. Apendix A presents the district-produced testing instruments and the pre- and post-test data. 4) Materials: Countless materials were developed or purchased for use by teachers and students that were motivational and conducive to the concept teaching situation --stream table, aerial photographs, floor maps and models, terrain models, transparencies, filmstrips, and realia. These all are listed in Appendix D. 5) Inservice: This was an ongoing program on content, methods, materials, concepts and techniques using consultants and institutes. (SBE)

1969-70
FINAL REPORT

GEOGRAPHY: AN INTEGRATIVE DISCIPLINE (K-6)

Agency: Santa Monica Unified School District
1723 Fourth Street
Santa Monica, California 90401

Project Number: OEG-19-740-14-6?90-0

OE# 6[illegible]

State: California

Budget Period: July 1, 1969 through June 30, 1970
July 1, 1970 through July 31, 1970 (Extension Period)

OE 4381 (REV 2/67)

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
OFFICE OF EDUCATION
WASHINGTON D.C. 20202

BUDGET BUREAU NO. 51-R808
APPROVAL EXPIRES 6/30/68

ESEA TITLE III STATISTICAL DATA

Elementary and Secondary Education Act of 1965 (P.L. 89-10)

THIS SPACE FOR U.S.O.E. USE ONLY	PROJECT NUMBER	VENDOR CODE	COUNTY CODE	REGION CODE	STATE ALLOTMENT

SECTION A - PROJECT INFORMATION

1. REASON FOR SUBMISSION OF THIS FORM (Check one)

A [ ] INITIAL APPLICATION FOR TITLE III GRANT
B [ ] RESUBMISSION
C [ ] APPLICATION FOR CONTINUATION GRANT
D [X] END OF BUDGET PERIOD REPORT

2. IN ALL CASES EXCEPT INITIAL APPLICATION, GIVE OE ASSIGNED PROJECT NUMBER: 19-740-14-6290-0

3. MAJOR DESCRIPTION OF PROJECT: (Check one only)

A [X] INNOVATIVE C [ ] ADAPTIVE
B [ ] EXEMPLARY

4. TYPE(S) OF ACTIVITY (Check one or more)

A [X] PLANNING OF PROGRAM
B [ ] PLANNING OF CONSTRUCTION
C [X] CONDUCTING PILOT ACTIVITIES
D [X] OPERATION OF PROGRAM
E [ ] CONSTRUCTING
F [ ] REMODELING

5. PROJECT TITLE (5 Words or Less)

GEOGRAPHY: AN INTEGRATIVE DISCIPLINE (K-6)

6. BRIEFLY SUMMARIZE THE PURPOSE OF THE PROPOSED PROJECT AND GIVE THE ITEM NUMBER OF THE AREA OF MAJOR EMPHASIS AS LISTED IN SEC. 303, P.L. 89-10. (See instructions)

The project proposes the continuation of an exemplary program (K-3) adapted from a research study which utilized geography as the integrative discipline; the development and articulation of this program through Grade Six; the introduction of a project designed to affect teaching strategies; and the involvement of teachers in curriculum development.

ITEM NUMBER 8

7. NAME OF APPLICANT (Local Education Agency)	8. ADDRESS (Number, Street, City, State, Zip Code)
Santa Monica Unified School District	1723 Fourth Street Santa Monica, California 90401

9. NAME OF COUNTY	10. CONGRESSIONAL DISTRICT
Los Angeles	28th

11. NAME OF PROJECT DIRECTOR	12. ADDRESS (Number, Street, City, State, Zip Code)	PHONE NUMBER / AREA CODE
Miss Lois Braun	1723 Fourth Street Santa Monica, California 90401	393-2785 213

13. NAME OF PERSON AUTHORIZED TO RECEIVE GRANT (Please type)	14. ADDRESS (Number, Street, City, State, Zip Code)	PHONE NUMBER / AREA CODE
Dr. Alfred A. Artuso	1723 Fourth Street Santa Monica, California 90401	393-2785 213

15. POSITION OR TITLE

Superintendent of Schools

SIGNATURE OF PERSON AUTHORIZED TO RECEIVE GRANT

DATE SUBMITTED: September 25, 1970

SECTION A – Continued

16. LIST THE NUMBER OF EACH CONGRESSIONAL DISTRICT SERVED	17A. TOTAL NUMBER OF COUNTIES SERVED	17B. TOTAL NUMBER OF LEA'S SERVED	17C. TOTAL ESTIMATED POPULATION IN GEOGRAPHIC AREA SERVED	18. LATEST AVERAGE PER PUPIL ADA EXPENDITURE OF LOCAL EDUCATION AGENCIES SERVED
28th	1	3	105,000	$ 817.16 (K-12)

SECTION B – TITLE III BUDGET SUMMARY FOR PROJECT (Include amount from item 2c below)

1.		PREVIOUS OE GRANT NUMBER	BEGINNING DATE (Month, Year)	ENDING DATE (Month, Year)	FUNDS REQUESTED
A.	Initial Application or Resubmission				$
B.	Application for First Continuation Grant				$
C.	Application for Second Continuation Grant				$
D.	Total Title III Funds				$
E.	End of Budget Period Report	19-740-14-6290-0	7/1/69	7/31/70	

2. *Complete the following items only if this project includes construction, acquisition, remodeling, or leasing of facilities for which Title III funds are requested. Leave blank if not appropriate.*

A. *Type of function (Check applicable boxes)*

1 ☐ REMODELING OF FACILITIES 2 ☐ LEASING OF FACILITIES 3 ☐ ACQUISITION OF FACILITIES

4 ☐ CONSTRUCTION OF FACILITIES 5 ☐ ACQUISITION OF BUILT-IN EQUIPMENT

B. 1. TOTAL SQUARE FEET IN THE PROPOSED FACILITY	2. TOTAL SQUARE FEET IN THE FACILITY TO BE USED FOR TITLE III PROGRAMS	C. AMOUNT OF TITLE III FUNDS REQUESTED FOR FACILITY
		$

SECTION C – SCHOOL ENROLLMENT, PROJECT PARTICIPATION DATA AND STAFF MEMBERS ENGAGED

1.			PRE-KINDERGARTEN	KINDERGARTEN	GRADES 1-6	GRADES 7-12	ADULT	Special OTHER Classes	TOTALS	STAFF MEMBERS ENGAGED IN IN-SERVICE TRAINING FOR PROJECT
A	School Enrollment in Geographic Area Served	(1) Public		976	5,624			186	6,786	
		(2) Non-public		23	174				197	
B	Persons Served by Project	(1) Public		976	5,624			186	6,786	268
		(2) Non-public		23	174				197	8
		(3) Not Enrolled								
C	Additional Persons Needing Service	(1) Public								
		(2) Non-public								
		(3) Not Enrolled								

TOTAL NUMBER OF PARTICIPANTS BY RACE (Applicable to figures given in item 1B above)	WHITE	NEGRO	AMERICAN INDIAN	OTHER NON-WHITE	TOTAL
	5,374	573	12	1,024	6,983

SECTION C - continued

3. RURAL/URBAN DISTRIBUTION OF PARTICIPANTS SERVED OR TO BE SERVED BY PROJECT

PARTICIPANTS	RURAL		METROPOLITAN AREA		
	FARM	NON-FARM	CENTRAL-CITY	NON-CENTRAL CITY	OTHER URBAN
PERCENT OF TOTAL NUMBER SERVED			100%		

SECTION D - PERSONNEL FOR ADMINISTRATION AND IMPLEMENTATION OF PROJECT

1. PERSONNEL PAID BY TITLE III FUNDS

TYPE OF PAID PERSONNEL	REGULAR STAFF ASSIGNED TO PROJECT			NEW STAFF HIRED FOR PROJECT		
	FULL-TIME 1	PART-TIME 2	FULL-TIME EQUIVALENT 3	FULL-TIME 4	PART-TIME 5	FULL-TIME EQUIVALENT 6
A. ADMINISTRATION/ SUPERVISION		1		1		
B. TEACHER:						
(1) PRE-KINDERGARTEN						
(2) KINDERGARTEN						
(3) GRADES 1-6				4		
(4) GRADES 7-12						
(5) OTHER						
C. PUPIL PERSONNEL SERVICES						
D. OTHER PROFESSIONAL						
E. ALL NON-PROFESSIONAL				1	5	

F. FOR ALL CONSULTANTS PAID BY TITLE III FUNDS → (1.) TOTAL NUMBER RETAINED 13 (2.) TOTAL CALENDAR DAYS RETAINED 64

2. PERSONNEL NOT PAID BY TITLE III FUNDS

TYPE OF UNPAID PERSONNEL	REGULAR STAFF ASSIGNED TO PROJECT			NEW STAFF HIRED FOR PROJECT		
	FULL-TIME 1	PART-TIME 2	FULL-TIME EQUIVALENT 3	FULL-TIME 4	PART-TIME 5	FULL-TIME EQUIVALENT 6
A. ADMINISTRATION/ SUPERVISION		13				
B. TEACHER:						
(1) PRE-KINDERGARTEN						
(2) KINDERGARTEN		21				
(3) GRADES 1 TO 6		253				
(4) GRADES 7-12						
(5) OTHER						
C. PUPIL PERSONNEL SERVICES						
D. OTHER PROFESSIONAL						
ALL NON-PROFESSIONAL						

FOR ALL CONSULTANTS NOT PAID BY TITLE III FUNDS → (1.) TOTAL NUMBER RETAINED 8 (2.) TOTAL CALENDAR DAYS RETAINED 38

SECTION E - NUMBER OF PERSONS SERVED OR TO BE SERVED AND ESTIMATED COST DISTRIBUTION

	MAJOR PROGRAM OR SERVICES	TOTAL NUMBER SERVED OR TO BE SERVED						NON PUBLIC SCHOOL PUPILS INCLUDED (7)	ESTIMATED COST (8)
		PRE-K (1)	K (2)	1-6 (3)	7-12 (4)	ADULT (5)	OTHER (6)		
1.	EVALUATIVE PROGRAMS								
	A Deficiency Survey (Area Needs)								
	B Curriculum Requirements Study (Including Planning for Future Need)								
	C Resource Availability and Utilization Studies								
2.	INSTRUCTION AND/OR ENRICHMENT								
	A Arts (Music, Theater, Graphics, Etc.)								
	B Foreign Languages								
	C Language Arts (English Improvement)								
	D Remedial Reading								
	E Mathematics								
	F Science								
	G Social Studies/Humanities		976	5,436				197	103,000
	H Physical Fitness/Recreation								
	I Vocational/Industrial Arts								
	J Special-Physically Handicapped Blind			84					Included above
	X Special-Mentally Retarded			104					Included above
	L Special-Disturbed (Incl. Delinquent)								
	M Special-Dropout								
	N Special-Minority Groups								
3.	INSTRUCTION ADDENDA								
	A Educational TV/Radio								
	B Audio-Visual Aids								
	C Demonstration/Learning Centers						100		Included above
	D Library Facilities		976	5,624				205	Included above
	E Material and/or Service Centers								
	F Data Processing			5,624					
4.	PERSONAL SERVICES								
	A Medical/Dental								
	cial/Psychological								
5.	OTHER								

Supplementary Centers and Services Program
(ESEA Title III – PL 89-10)
Final Financial Report and Claim for Reimbursement

PROJECT APPLICATION AND CLAIM APPROVED
By _____
BUREAU OR OFFICE

TO: STATE DEPARTMENT OF EDUCATION
Fiscal Office
721 Capitol Mall
Sacramento, California 95814

Project no. 19-740-14-6290-0

Project period ending June 30, 1970

Submit original and two copies upon completion of project when all obligations have been liquidated or 90 days after end of project period, whichever is sooner.

Expenditure accounts		Salaries		Contracted services	Materials and supplies	Travel	Equipment and other expenses	Total expenditures
Classification	No.	Professional	Non-professional					
Administration	100							
Instruction	200	66,886	6,281		9,432	8,613		91,212
Attendance services	300							
Health services	400							
Pupil transportation services	500			400				400
Operation of plant	600							
Maintenance of plant	700							
Fixed charges	800	6,815	1,205					8,020
Leasing of facilities	830							
Food services	900							
Student body activities	1000							
Community services	1100							
Improvement of sites	1210C							
Construction (over $2,000)	1220							
Remodeling ($2,000 or less)	1220C							
Capital outlay (equipment only)	1230						3,368	3,368
TOTAL		$ 73,701	$ 7,486	$ 400	$ 9,432	$ 8,613	$ 3,368	$103,000

LESS CASH ADVANCE RECEIVED ..... $ 75,000

REIMBURSEMENT NOW CLAIMED ..... $ 28,000

or

EXCESS RETURNED HEREWITH* ..... $ -0-

CERTIFICATION

I CERTIFY that the expenditures reported above have been made, and that all obligations have been liquidated; that this project has been conducted in accordance with applicable laws and regulations; that the approved application for this project plus any approved amendments are on file; and that full records of receipts and expenditures have been maintained and are available for audit.

S. W. Sisco
Signature of authorized official

S. W. Sisco, Comptroller
Title

August 19, 1970
Date signed

Santa Monica Unified School District
Legal name of district or organization

1723 Fourth Street
Street address

Santa Monica, California 90401
City State Zip code

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FINAL REPORT
GEOGRAPHY: AN INTEGRATIVE DISCIPLINE (K-6)
INTRODUCTION AND GENERAL OVERVIEW

The Santa Monica Geography Project has been under development, field study and implementation for more than sever years. Project personnel feel that those forms incorporated within the Manual for Project Applicants and Grantees (Revised, May, 1967) are inadequate to describe fully the processes involved during this time period. Therefore, this introductory section will be devoted to an overview of the total program, while the Narrative Report will be devoted largely to a detailed account of the third and final year of federal funding.

Pilot Project--1963-1966

Prior to 1964, Dr. Charlotte Crabtree, Department of Education, University of California at Los Angeles, conceived the idea of analyzing the extent to which primary grade children could work with selected geographic concepts, skills and materials. Dr. Richard F. Logan, Department of Geography, University of California at Los Angeles, was enlisted to provide the geographic content of the study. From this partnership arose a pilot study funded by the United States Office of Education (USOE2476), and introduced during the 1964-65 school year under the direction of Miss Lois Braun, Santa Monica Curriculum Supervisor. Twelve Santa Monica teachers, grades one to three, were selected to participate in the experimental study and an additional control group was provided with special material supplementing the state Social Science curriculum.

The concept of "region" and the skill of regional analysis were fundamental to the study. Major foci for the one-semester program were as follows:

Grade One-- The city, its major subdivisions (residential, commercial, industrial), the functions and interrelationships of these subdivisions, their patterns on the land, and the roles of various peoples within them.

Grade Two-- The Los Angeles Basin, two of its harbors (Santa Monica and Los Angeles) and their function, the sand and gravel industry, and transportation patterns within the Basin.

Grade Three--The sequent occupance of the Los Angeles Basin (Indians, Mission period, pobladores, ranchos and modern life), with emphases on the ways each of the peoples used the land, the culture of each and the ways in which each culture affected each other culture.

Three cartographers and a Research Assistant were employed to develop pupil-teacher materials and instructional aids including scale models, aerial photographs, acetate overlays, a terrain model of the Los Angeles Basin, historical maps and photographs, slides, desk maps, pupil background information and teacher guides. Each of the teachers was given in-service training by Drs. Crabtree (instructional techniques and program) and Logan (geographic content). In addition, Dr. Crabtree and Miss Margot Coons, Research Assistant, worked closely with Miss Braun, teachers and students during program implementation.

At the end of two years of experimentation and evaluation, all evidence supported the thesis that primary age children could indeed deal with advanced geographic content, skills, concepts and materials (see Final Report U.S.O.E. 2476). Subjective evidence further indicated that the program was highly motivational to most students regardless of socio-economic background or intelligence quotient. Therefore, the Santa Monica Unified School District decided to implement the pilot study into all classes grades one to three, expanding it into a full year program and, using this pilot study as a foundation, to create a new social science program based on geography for Grades Kindergarten, Four, Five and Six. In order to accomplish this, the District received Title III funds beginning March 1, 1967, and ending July 31, 1970.

Title III Project--1967-1970

It is extremely difficult to analyze objectively a project which has consumed three and a half years of intensive creation, implementation and evaluation and which has involved more than 250 educators, 75 businesses and/or businessmen and 6000 children. Project personnel are deeply committed to the changes which this project has attempted to bring to the educational environment; changes not only in basic curriculum and materials, but changes in teaching techniques and changes in the cognitive growth of children.

The project will be analyzed under the following headings: Procedures, Program, "If We Could Begin Again," and Adaptability.

Procedures

Summer and Winter 1966: Miss Lois A. Braun, Curriculum Supervisor, Santa Monica Unified School District, Miss Margot M. Coons, at that time Educational Consultant with Creative Playthings, with the assistance of Pilot Project teachers, prepared and submitted the Title III Application for funding in Spring of 1967, based upon needs assessment conducted during the preceding years.

Spring, 1967: Following funding as of March 1, Miss Coons was employed as Project Research Coordinator and a project clerk was hired. Meetings were held with principals, other administrative and supervisory staff, the Santa Monica PTA, Board of Education and all teachers grades K-3 to explain the project. Definitive project objectives were evolved, test instruments devised and field tested, and teacher and pupil material created. The first class for grades K-3 teachers in geographic content was conducted by Dr. Logan. The Los Angeles Basin was canvassed for any and all material which would assist students and teachers. Other materials were created and/or purchased.

Summer, 1967: All of the above were continued. Volunteer parents assembled and painted over 7000 buildings and 100 floor maps along with many other materials. The second class for grades K-3 teachers was conducted by Dr. Logan. Everything which would strengthen the program was collected or created, packaged and mailed to 134 teachers grades K-3. The grade three (Greece--A Comparative Analysis) and Kindergarten (Home and School) Pilot Studies were prepared, and the Demonstration Center was established.

Fall, 1967: The program was initiated into all primary grades in the Santa Monica schools and two parochial schools, St. Augustine and Pilgrim Lutheran. Weekly In-Service grade-level meetings were held to further explore program and teaching techniques, answer questions and evaluate progress. The Geography Pretest was administered and scored with extra clerical assistance and volunteer parent aid. The third and final class for grade K-3 teachers was conducted by Dr. Logan. Materials were continually produced and purchased. The grade three and Kindergarten Pilot Studies were introduced.

Winter, 1968: Implementation, creation of materials (including the guide for independent and small group activities), In-Service meetings, and contact with the business community were all continued. Continuous evaluation was conducted through informal conferences and meetings with pupils, teachers, administrators, parents and all other interested parties. PACE Office personnel were enlisted to provide consultation in designing of evaluative instruments and to assist project personnel with various problems. The application for an extension period (March 1 through May 30, 1968) was prepared and submitted; this would readjust the funding period to coincide with the school calendar year. The application for Continuation Grant (1968-69 school year) was prepared and submitted. Dissemination was

undertaken including consultation with nearby school districts, presentations at conferences, and meetings with representatives from the lay community. The grade four Pilot Study was designed.

Spring, 1968: Implementation, In-Service, evaluation, creation of materials, contacts with business community, dissemination were all continued. The grade four Pilot Study (Regional Analysis of California and Japan and a unit on oceanography) was implemented in selected classrooms. Two television programs ("Steps to Learning") were taped. Meetings with PACE personnel in evaluation were continued. The Post Test was administered. A Multi-Media program for dissemination was designed and field tested.

Summer, 1968: The Post Test was scored, pupil growth assessed, subjective evidence amassed and the 1967-68 Final Report prepared. The grade four Pilot Study was evaluated and refined. Necessary materials were prepared and/or purchased. Six writers were employed to prepare materials designed to strengthen the grades K-4 programs. The In-Service program in Inquiry for grade one teachers was planned with Mr. Ben Strasser, Los Angeles County Schools, and a three-day workshop for twelve first grade teachers was held. The four Teacher Consultants were contacted and employed for the 1968-69 school year--Mrs. Barbara Cunningham, Mrs. Pat Holt, Mrs. Sheryl Mueller, and Miss Peggy Shackelton--and meetings were held to explore their areas of responsibilities.

Fall, 1968: All of the above were continued. The first grade four class in geographic content was conducted by Dr. Peter Mason, San Fernando College. The grade four program was initiated into all classrooms. The Pretest was administered. The grade one project in Inquiry was instituted and continuous evaluation maintained. The Teacher Consultants worked closely with all teachers and pupils within the classroom and assisted with program development and evaluation. In-Service programs in Inquiry were held with all teachers with the assistance of Mr. Ben Strasser, Dr. Arthur Costa, Assistant Superintendent of Schools, Sacramento, and various Los Angeles County personnel. Dr. John Shelton, Claremont College, was employed as a consultant to work with teachers in Geology.

Winter, 1969: All of the above were continued. The second grade four class in geographic content was conducted by Dr. Logan. Meetings were held with Junior and Senior High School staffs to familiarize them with the Geography Project and its implications. A series of parent

classes was conducted by Dr. Logan and project staff to familiarize them with the project. Further In-Service in Inquiry was conducted. The grade five Pilot Program was prepared.

Spring, 1969: All of the above were continued. The grade five Pilot Program was implemented in selected classrooms. Two Field Study trips (mountains and seashore) for parents were conducted by Dr. Logan. The grade five Geography Class was held under the direction of Dr. Logan. The 1969-70 Project Proposal was prepared and submitted. The grade four Overnight Field Study experience was field-tested, and the grade six Outdoor School program planned with Mr. Jack Davidson, Los Angeles County Schools. Meetings were held with Dr. Rod Fielder, Claremont College, to explore Inquiry as a tool for study of urban communities (grades 4-6) and with Dr. Robert Tabachnick, University of Wisconsin, to explore use of Inquiry in culture studies (grade six). Meetings were held with Dr. Costa, Mr. Strasser, Dr. Shelton, Dr. Fielder, and Los Angeles County staff members to explore a 1969-70 release-time In-Service program. Continuous meetings were held with PACE personnel to attempt development of evaluative instruments in the Affective Domain. The Post Test was administered.

Summer, 1969: The grade six program was prepared. The Post Test was scored, pupil growth assessed, subjective evidence amassed and the 1968-69 Final Report prepared. Plans for the 1969-70 release-time In-Service program were finalized. Project staff (Miss Braun, Miss Coons and the Teacher Consultants) evaluated the 1968-69 program and made plans for revisions as necessary. Mrs. Pat Samarge was employed to replace Mrs. Holt, who departed on maternity leave. The grade five Pilot Program was evaluated, refined and materials prepared.

Fall, 1970: The grades Kindergarten through four programs were continued. The grade five program was initiated into all classrooms and additional materials were prepared and In-Service continued. The grade six class was conducted by Dr. Logan and all teachers were involved in program design and material preparation. The release-time In-Service program was initiated. The Teacher Consultants continued to work closely with all teachers and pupils. Continuous In-Service in Inquiry and Individualization of Instruction was conducted. The Pretest was administered and scored.

Spring, 1970: The above were all continued. The second series of parent classes was conducted by Dr. Logan. Continuous program evaluation was undertaken by all involved personnel. The Post Test was administered, scored and cumulative pupil growth (subjective and objective) assessed. Miss Braun left on sabbatical leave and Miss Coons assumed the role of Project Director. The Teacher Consultants continued to work with teachers and pupils, conducted final inventories, prepared pupil and teacher materials and assisted in total program evaluation and laid the foundation for the new social science program to continue without federal funding.

July, 1970: The Final Report was prepared and guidelines were perfected which would assure smooth program continuation. Principals have assumed responsibility for: selecting members of each staff to disseminate geographic content and to guide teachers new to the district; purchasing additional materials as needed; helping librarians to house and disperse the multitude of instructional aids. The district has undertaken the costs for sustaining certain aspects of the program, i.e., field study trips, teacher-made film strips, and plans to analyze future budget items for the possibility of reinstating certain aspects of the program. Various segments of the community have promised to extend their expertise and support the continuation of the program.

The Program

The program will be discussed under four headings: Instructional Techniques, Curriculum, Evaluation, Materials and In-Service.

1. Instructional Techniques

The geography program depends on Field Study as the primary technique. In grades Kindergarten through four, areas under study begin with an excursion into the area whenever possible. Grade one students walk through their school and their local neighborhood over and over again, making observations, asking questions, comparing areas, and gradually building their own definitions of subregions within a city. They likewise drive through comparative neighborhoods, the Central Business District, Industrial and Recreational districts. Second grade students tour the three harbors under study (Santa Monica, Marina del Rey and Los Angeles) as well as the Civic Center of Santa Monica. Third graders visit the La Brea Tar Pits, various topographical phenomena, Indian sites and museums (even engaging in an archaeological dig whenever possible), missions, pueblos and other historical sites. Students in the fourth grade engage in intensive field study of geology by examining the actual landforms of plains, seashores, alluvial fans, mountains, deserts and valleys, including the vegetation and ecology of each of these areas. Following each field study experience, students are provided with a tremendous variety of materials designed to strengthen the concepts and knowledge gained in the field, including scale models, maps of varying types and levels of sophistication, slides, filmstrips, motion films, transparencies, books (including several pupil books and booklets written expressly for the project), historical photographs, realia, stream tables (used to reconstruct and analyze forces of erosion, deposition and diastrophism), and many, many others (see Appendix D for complete materials list).

From the outset, the Geography Project assumed Individualization of Instruction and the utilization of small group activities as a fundamental technique necessary for success. Materials were designed to this end, and In-Service education focused on ways to help teachers accomplish this. Pupil materials were distributed in the ratio of 5-15 per class, and most of them were designed for use by individuals. An Independent and Small Group Activities booklet was written by the Teacher Consultants to provide teachers with specific suggestions for individualization and grouping. Teacher resistance was higher in this area than in any other associated with the project, especially at the first grade level. The Teacher Consultants worked constantly with classroom teachers demonstrating methods and lessons appropriate to small group activities. They suggested techniques supportive of individualized activities. All project staff members and consultants "sold" the concept whenever possible. Still, several of our teachers continue to use class lecture and demonstration

as their major instructional tool, while agreeing with the need for adapting curriculum to the individual. Many gains have been made; several "traditional" teachers have radically altered their approaches to students, others are experimenting. Overall, project personnel are more discouraged over the slowness of this desired change than in any other aspect of the project. Much more time and effort will have to be expended before major differences in many of our teaching staff in this critical area will be evident. The curriculum personnel, administrators and teachers remaining in the district are pledged to strengthening this technique in the forthcoming years.

As project staff analyzed those things that were happening to pupils during the first year of Title III operation, it became increasingly obvious that students often were engaging intuitively in the processes of Inquiry, but that teachers were ill-equipped to strengthen and expand these natural tendencies. Instead of encouraging and guiding students in the solution of their own problems or toward answering their own questions, teachers often inadvertently placed stumbling blocks in front of their students. Ben Strasser, Art Costa and other experts in the field of Inquiry were employed to work with teachers to define those techniques which would foster rather than inhibit Inquiry. The project staff and classroom teachers are still analyzing the Inquiry techniques and adapting them to elementary school social science. Many sample lessons have been designed and Inquiry is proceeding in many classrooms.

2. Curriculum*

The curriculum for the geography project follows the California state framework in general, beginning with home, school and community and proceeding through California, the United States and the World. Basic content differences include the geographic approach to these areas, the recommended tools and materials and some units of study not employed elsewhere.

Geography ("the study of all of man's activities on the land") was selected as the integrative discipline for this project due to its potential for incorporating concepts and skills from the other social sciences as well as from many of the physical sciences. Throughout this study, students are encouraged to analyze the cultures of man within his physical environment. The geographer looks at a specific region in terms of its homogeneity, the ways it differs from other regions, and those features which make it unique. He is concerned with land use, pattern, function, interrelationships, culture, economy, ecology and all of the things that set that particular area apart from adjoining areas. This project has added the dimension of time from the viewpoint of the historians: What historic variables contributed to the nature of this region and what variables will affect the future of the area. We are also concerned with the contributions of the geologist to the understanding of the earth's surface, its creation, the changes which

*See Appendix C for full list of Concepts and Elements at each grade level.

have and are occurring, and the effect man is having on the nature of the land on which he lives. Contributions from the sociologist, economist, anthropologist, biologist, and political scientist have also been included. Concepts, skills and knowledge from these and other disciplines have been incorporated into the project.

The curriculum and the materials are carefully structured and designed to proceed in stages from concrete to abstract, from simple to complex and from close-at-hand to removed-in-time-and-space, as the student moves through elementary school. In grade one, for instance, the child begins with floor maps and accurate scale models of his immediate neighborhood, which are extremely pictorial and are designed to be manipulated. He then proceeds to pictorial desk maps of the same area, with selected buildings pictured as they look. He also works with an acetate overlay series teaching him the coordinate grid system and with large-scale aerial photographs of the various regions. By third grade, the student is working with a terrain model of the Los Angeles Basin, U.S.G.S. topographic maps, physical-cultural wall maps and historic maps picturing cultural distribution and "urban" patterns. By fifth grade, the student analyzes historical maps of the 1400's which portray man's growing understanding of the world, and by sixth grade he will be examining photographs of our planet from outer space and making determinations about the nature of the land from these photo-maps.

Using Inquiry, the first grade child may investigate the reason why gas stations are on corners; the second grader may predict the future of the Santa Monica Harbor and breakwater based on the information he has gathered; the third grader may hypothesize as to the location of Indian villages in Los Angeles based on everything he has learned about the physical environment and on the needs of a primitive people; the fourth grader may delve into the effects of pollution in the water and air and to man's responsibilities in clearing up this problem; the fifth grader may inquire into the nature of the World of 1400 based on primary and secondary sources; and the sixth grader may inquire into the problems of various undeveloped nations and peoples and the ways they can bring themselves into the twentieth century.

Comparative studies are included at all levels: Grade One--various regions within a city; Grade Two--three different harbors; Grade Three--the varied cultures of the sequent occupants of Los Angeles and comparison between Southern California and Greece; Grade Four--various subregions of California, comparison between California and Japan, and comparison between the environment above the sea and the environment beneath the sea; Grade Five--various periods of United States history, regions of United States, and comparison of the United States and Australia; and Grade Six--various climatic regions, the continents, and subcultures throughout the world.

3. Program Evaluation

There is no question in the minds of project personnel, most teachers and all students that the Geography Project is an immense improvement over prior social studies programs (see Appendix B for Subjective Evidence). Students are highly motivated, they are dealing with far more advanced concepts, and they are working with exciting and meaningful materials. Part I of the Narrative Report and Appendix B detail the objectives of the program and the extent to which these objectives were met. Here, we should like to outline general findings which may have import for the educational community.

Primary grade children can use sophisticated tools to investigate highly complex concepts. Rather than studying the milkman, the policeman, the postman and perhaps the market, first graders can efficiently and effectively examine the various regions of their city and arrive at an accurate (even though somewhat elementary) idea of "cityness." Following a full year study, the students in many classes were asked to construct or map a model city; in all cases, the planning was logical, all regions were covered and most of the variables necessary to the functioning of a city were included. The students found little difficulty working with aerial photographs, city planning maps, historical photographs and other resources as data sources. They were capable of analyzing the functions of various regions and of the people who work in those regions.

Sophisticated map-reading skills can easily be learned in the early grades given a carefully sequenced developmental program. Beginning with scale models, pictorial maps and aerial photographs, progressing through terrain models and highly symbolic maps, most students are capable of understanding the USGS topographic maps by the third grade. This program gives the student the necessary competence and understanding to use the standard state and national wall maps in the upper grades.

Constant and varied In-Service is a requisite to implementation of a new program, especially one which incorporates change in teacher behavior. The project has required that teachers take a course in program content prior to involvement. There have been countless formal and informal meetings on teaching techniques, materials, concepts and learning strategies. The focus of our In-Service has been the on-site performance of our Teacher Consultants who have worked directly with students and teachers demonstrating lessons, engaging in team teaching, conducting Field Study trips and explaining use of materials. In addition, they have conducted countless conferences and meetings with individual teachers, with grade levels and with total faculties. They have worked closely with school librarians establishing Geography Centers in each library where students can do independent and small group research. With all of this

personal help, and with the innumerable teacher and pupil materials created or purchased by the project, there are still a few teachers who have failed to (or who refuse to) recognize the basic concepts and philosophy underlying this program (see Appendix B, Part 1, for results of Geography Project Evaluation Survey). However, as a direct outcome of the project, most of our teachers are moving toward greater use of the techniques of grouping, individualization of instruction, direct involvement of pupils in decision-making, and Inquiry.

Due to the nature of the materials which have been developed for the project, many of which require no reading, we have found no evidence of significant differences in the learning of pupils from minority groups, from culturally disadvantaged groups or from groups identified as low-achievers in academic areas. In fact, project personnel are able to cite many instances of a youngster who suddenly "caught fire" academically, becoming highly motivated by a stream table, or a contour map, or a terrain model, and transferring this interest to other curricular areas.

Elementary age children can profitably engage in Inquiry providing that the problem focus, the nature of the data-gathering operations and the anticipated hypotheses are appropriate to the child's age-grade level. As has been noted elsewhere (Sections 1 and 2 under Program, preceding), first grade children can inquire into the nature of regions within their city. (Why are gas stations on corners? Where does our food come from?) Their questions or problems are elementary, and specific answers are usually available. But the children are still engaging in defining problems, hypothesizing answers or solutions, deciding on needed data, researching, and coming to decisions (accepting, rejecting, redefining hypotheses or theories) based on the data. By fifth grade, the students are dealing with more complex problems. (Who really discovered America? What was life like in the 1400's?) Many of these problems have no specific answers and thus no closure. They are working with incomplete data which is often highly questionable as to its authenticity. They are involved not only in the complete Inquiry cycle, but also in judging the validity of given data and in arriving at hypotheses which may of necessity be only tentative pending later historical evidence.

Bringing a new program to the attention of the general public (newspaper coverage, parent classes, requests for assistance, contacts with PTA, etc.) greatly improves the odds that it will be accepted by the lay community. This acceptance and interest can bring added dividends; we have received many offers of assistance, materials and expert knowledge.

All children are fascinated with "big words." We have consistently supplied the correct terminology when a more simplified word would lose accuracy. First grade students, for example, speak of single- and multiple-family residences; residential, commercial and industrial zones; aerial photographs; and the Core and Secondary areas of the

Central Business District. Third graders discuss the vegetation associations of the Los Angeles Basin including chaparral, oak-parkland, riparian, coastal sage; they describe geologic phenomena such as erosion and deposition, folding and faulting of mountains, littoral drift, meander loops and topography; and they differentiate between anthropology, archaeology, geology and geography. All of these terms and many, many others are easily assimilated by most children; they further delight in "showing off" as they conduct their parents on weekend Field Study trips.

A curriculum based on those things which a pupil can see, handle, feel, walk through and manipulate has much more potential impact on students than one based on less immediate sources. Once basic concepts are learned in this way, transfer to the removed-in-time-or-space is much more readily accomplished. Prior social science programs have included "The Community" as a basic unit of study in the primary grades. The primary tools of these programs included pupil books and motion films. Students studied the milkman, the postman, the fireman, etc, by reading about them, seeing films and occasionally visiting the places of business. The Geography Project begins with a larger concept, The City, divides this region into manageable subregions, and then examines the physical and cultural components of each by having students walk through the area, talk to people and examine many forms of commercial, industrial, residential, governmental and recreational activities carried on by the people of those subregions. Therefore, while prior programs often dealt with isolated peoples portrayed as generalities and having no specific relationships with other peoples, the Geography Project from the beginning deals with people in real settings interrelated with other people performing similar and dissimilar services and making up a totality called City. At all times, our primary age children examine at first hand the areas which they study. This has made all of them more aware of their environment and more knowledgeable about the complexities of the cultures which influence their lives.

4. Materials

Countless materials have been developed or purchased for use by students and teachers. A complete list of these may be found in Appendix D. In all cases, project personnel have attempted to provide materials which would assist students in learning specific concepts, skills or knowledge, and which would encourage the teacher to alter her approach from information-giver to learner-guider and motivater. We have then attempted to provide in-service for teachers which would help them get the most out of these materials and thus give students the maximum benefit of the program. Many of these materials are either directly replicable or are at least adaptable to all teaching situations. Among those which have proved to be extremely motivational to students and/or which aid students in

learning concepts which are difficult to teach in other ways are the following:

a. Stream table (an oblong trough, with water-circulating pump and sand): Excellent for use with grades 3-6 students; can simulate problems of erosion and deposition (including wave action), life cycle of a river, diastrophism, conservation techniques, and many other concepts; an extremely motivational tool, especially with boys; available from several commercial companies.

b. Aerial photographs of various regions: Negatives or even prints of these may often be available from local governments at low cost, as most areas in California have been photographed from the air; they may be used to analyze regional distribution of cultural features, urban patterns (streets, housing, commercial and industrial areas, etc.), zoning, location of specifics, and as a bridge from highly pictorial and realistic maps and models to standard street maps.

c. Floor maps and models (vinyl map designed to accurate scale and with scale models resembling the actual structures): An extremely useful tool for primary children as an introduction to mapping; children can walk through their neighborhood, reconstruct what they have seen with floor map and models, then rewalk the area to check their data; teachers have been using rough floor maps and blocks for years--the pictorial, realistic quality of well-designed models introduces accurate concepts of scale, distance and size relationships; these can be produced by individual schools using expert assistance from parents.

d. Terrain models: The project has produced four accurate terrain models: the Los Angeles Basin, the face of the Santa Monica Mountains and the area of the city itself, the Malibu region, and the Pacific Ocean Basin from Japan through California and from Mexico to Washington State; these models serve as excellent transition to topographic maps (such as those produced by the U.S.G.S.); students use them to analyze climatic variables (location of desert, highest rainfall, fog, etc.), to trace courses of rivers and transportation routes, to locate potential sites for Indian villages, etc.; commercially produced landform models (showing all major landform types) and contour mapping kits (teaching transition from terrain model to topographic map) were also successfully utilized; additional topographic "practice sheets" have been designed and used by students.

e. Transparencies: The project has produced transparencies on Los Angeles Basin transportation patterns, Indians of the Los

Angeles Basin (location of villages, vegetation associations and trading patterns), a Los Angeles Basin topographic series, regions of California (three cross sections illustrating topography, vegetation and climate), various United States history sets (World in 1400, Widening World in Age of Exploration, etc.), Australia cross section and an Australia series; in addition we have purchased several commercial sets (California, Japan, and each of the continents); all of these transparencies have effectively served to visualize relationships between various aspects of the environment (topography with vegetation with urban centers, etc.).

f. Filmstrips: In addition to purchasing many commercial filmstrips, the project has produced several filmstrips illustrating local regions or industries (Santa Monica Maintenance Yards, several series on the Los Angeles Harbor, the concrete industry, the Malibu region, and vegetation of the local area); these are relatively inexpensive to produce and can serve as follow-up to Field Study, to show a process from beginning to end, to highlight particular concepts or data, etc.; each has a script to accompany and many have tapes, which allow the student to concentrate on the material; each of the commercial and district-produced filmstrips have been placed in the individual school libraries rather than in the IMC center, thus facilitating their use.

g. Realia: The project has collected and disseminated many kinds of realia, including small pieces of processed cars, iron ore pellets, rabbit skins, rocks and minerals of the Los Angeles Basin, sea life collections, photographs and historic maps; these serve as primary sources for the students to support the many, many secondary sources (books and booklets, both commercial and district-produced) which we have provided.

5. In-Service

In order to affect change in the educational environment, teachers must be made aware of the concepts, skills, teaching techniques and content which are requisite to the desired change. Therefore, the district instituted an ongoing In-Service program with the following facets:

a. Prior to implementation, each teacher was required to take a course in the new geographic content of her grade level. These classes, conducted by Dr. Logan, were designed to give the teacher the necessary background in geography, geology, history, culture, etc., which she would need in order to conduct the program.

b. Also prior to implementation, teachers were involved in several sessions with project staff in which methods, materials, concepts and techniques of the program were introduced.

c. During implementation the Teacher Consultants were available to the teachers one day a week to assist them in any way. They worked directly with groups of children, demonstrated lessons in the classroom, conducted faculty grade-level meetings, created or procured materials, led field study trips, and performed many other facilitating functions.

d. District-wide, area or staff grade-level meetings were held with teachers and project staff to discuss mutual areas of concern.

e. Consultants from the disciplines were employed to conduct institutes and/or to provide expertise in the following areas:

(1) Inquiry--Dr. Arthur Costa, Mr. Ben Strasser, Mr. Jim Rudolph, and Dr. Robert Samples

(2) Geography--Drs. Richard Logan and Peter Mason

(3) Geology--Dr. John Shelton

(4) Culture Studies--Dr. Robert Tabachnick, Dr. Rod Fielder

(5) Individualized Instruction--Dr. Madelyn Hunter, Mr. Gary Griffin

"If We Could Begin Again..."

The original intent of the Santa Monica project was to develop a more meaningful and relevant social science program for elementary school pupils, and to adopt that program throughout the school system. We began by looking at the social studies program then in existence, analyzing its weaknesses and examining the Crabtree Pilot Study to determine its applicability to implementation and expansion. Following the decision to use this study as the basis of the new program, material was developed, evaluative instruments were field tested, objectives were sketched, and the program was instituted. During any one period of time, project personnel were engaged in implementation, field study, creation of materials, evaluation, preparation of teacher and pupil information, planning and In-Service.

If we could begin again, or if another school district were to attempt a project of this magnitude, i.e., new district-wide reading program, we would make the following suggestions based on our experience:

1. Assess very carefully the educational climate to determine the appropriate time to introduce an educational change, and adopt procedures to fit that climate. Education has insisted that our teachers begin new programs every year. Additional pressures from the community, legislature and district administrations for change and for improved achievement create a poor

atmosphere for introducing an additional radically new program. If the district is committed to the necessity for a change, then teachers must themselves become committed to the same idea. It is the responsibility of the principals and central administrators to assess the educational climate of the district and then to set up positive conditions conducive to the introduction of an educational innovation.

2. Thoroughly expose teachers to all aspects of the program, allowing them time to experiment with new techniques, materials and content prior to full implementation. Our teachers were faced with the difficult task of adopting new programs and new techniques at the same time. If the success of the project depends on creating changes in teacher behavior, then engage in that aspect first. Project staff, teachers and administrators should make periodic evaluations and feel free to change priorities as the program progresses.

3. Engage, from the beginning, sufficient staff to accomplish the objectives of the program. In our first year of operation, we attempted to make radical changes with a staff of two -- Miss Braun and Miss Coons. As work piled up on the desks, we rapidly recognized the need for additional help. Some relief was given at district expense by releasing four pilot project teachers to write special material, by employing additional clerical help periodically, and by hiring parent adies to correct tests. The four Teacher Consultants were employed during the second year of funding to implement the program and to free the directors for program creation, evaluation and material development. With a larger staff from the beginning, perhaps many of our problems would not have arisn. Ideally, a full-time Teacher Consultant for two schools affords time to revisit plants, to meet the needs as they arise and still allows for project staff commitments.

4. Divide responsibilities as much as possible among different staff members. That way, several aspects of program development and implementation can be carried out at the same time. No one person, or two people, can adequately operate in several spheres simultaneously. If the responsibilities are too centrally allocated, or if there is inadequate staffing, then some things will be neglected. Capitalize on the individual differences of the staff and use the specialized talents of the team members. Do not force them to be masters of all phases of the program.

5. Employ part-time an individual or team with expertise to direct the evaluation program. We are dissatisfied with the instruments which we developed, but do not have the skill nor have we had adequate time to improve them. Scoring, recording and evaluating took weeks of time. Those aspects of pupil learning which often hold the most meaning - motivation, feelings, attitudes - have not been adequately evaluated. Rather, we have devoted our instruments largely to factual retention, application of knowledge and skills. An evaluative team might have been able to develop more adequate instruments, further releasing project staff for program development and implementation.

Adaptability

Many aspects of the Santa Monica Geography Project are eminently adaptable to any school district anywhere in the country, even though the entire program may not be desirable. Among these are teaching techniques, environmental studies, materials and certain aspects of the In-Service program. In the balance of this overview we shall try to describe these as we would want another project described to us.

The Field Study approach to environmental studies, utilizing Inquiry and specific follow-up activities is not terribly unique. Children have been taking field trips from time immemorial. What is important is that students learn how to look at an area, that they raise questions and problems about that area, and that they are then allowed to discover their own answers or solutions. This begins in the first grade with directed observations, with the teacher posing questions which will point up discrepant events or an interesting phenomenon or pattern. On a walk through a residential area, the teacher may ask students: "How many families do you think live in that building? That one? That one? How about those across the street? Why would some people live in a single-family house like these and others live in a multiple-family house which is what we call those across the street? What kind of a house do you live in?" Etc. Soon, children will discover a pattern of sorts to their residential area, and this may lead to a study of zoning or of city planning. In a string commercial area (businesses along an artery, one structure deep, often with an alley immediately behind the buildings) children will soon discover the pattern, will be able to analyze the reasons why those particular businesses are located there, and should be able to hypothesize with fair accuracy as to what type of structure will be built in a nearby vacant lot. Soon, definitions of areas can be built by the student and eventually a full concept of "cityness" will be established. How much more meaningful than the traditional Community Helpers approach! We believe that children should understand the nature of their environment in order to function in that environment as adults, and we feel that a carefully sequenced program such as that incorporated in this project can lead to this understanding.

Inquiry and Individualized Instruction are techniques under analysis throughout the nation. What is vital in the social sciences is that students learn to analyze their environment and derive conclusions, hypotheses and predictions based on fact and rational analysis. The processes of Inquiry were incorporated into the program during 1968-69 and emphasized during the following year. Inquiry strengthens Individualized Instruction by providing the tools with which students can engage in independent research into problems or questions of immediate concern to them. Many, many questions remain, questions which might be explored in depth by other districts or projects attempting to make education more lastingly useful to students. To what extent do elementary school children intuitively inquire? What teacher behaviors are requisite to strengthening these

skills? What behaviors inhibit inquiry? At what level can children be made aware of these processes in order to gain full cognitive power through using inquiry? What questions/problems are most appropriate to each level? To what extent can young children state problems, hypothesize, carry out research and arrive at some form of closure? How do you evaluate the extent to which students inquire? What kind of in-service training is best suited to creating changes in teaching strategies? The Santa Monica project has just begun analyzing these questions. We have some answers, but many questions remain.

Our children are being raised in an environment which their parents and their parents before them have continued to pollute and misuse. They are being made aware of the dangers of this continued misuse by all of the mass media who have so recently "climbed on the bandwagon." Yet, they see around them continuous daily disregard of those practices. For this reason and because of the motivational potential, we embarked on Environmental Research based on Field Study which has been described elsewhere in this document. We are still hopeful of establishing an Environmental Research Center on virgin land in the Malibu area. With the cooperation of private citizens, educational institutions, businesses and corporations, we envision an area carved out of and fitting into the landscape in which would be located an Oceanographic Institute, an historical museum focusing on the Indians of the Malibu, and provisions for Field Study and Outdoor Education including overnight facilities.

NARRATIVE REPORT

I. For operational activities, discuss the effect of the project on the clientele by briefly stating the major objectives of the project and the techniques used in evaluating the extent to which these objectives were achieved. PACE project applicants are required to provide project evaluations. Please attach one copy of the results of this evaluation with supporting materials. Estimate the cost of the evaluation.

The Project Goal as stated in the Addendum to the 1969-70 Project Proposal was: To increase the student's skills of inquiry relative to his geographic environment to a point where he is capable of recognizing and applying authoritative resources to the analysis and solution of geographic problems. Two standardized tests, the Houghton Mifflin Primary Social Studies Test in grades 1-3 and the Iowa Test of Basic Skills (sections W-I, II and III) in grades 4 and 5, were administered in order to gain a measure of student achievement as compared with national norms. Expectancy level was to be at least six months above the national norms.

A. The Houghton Mifflin Primary Social Studies Test shows our students achieving between one and six months above national norms:

		1967-68			1968-69			1969-70		
	Nat. Norm	Dist. Avg.	Gr. Eq.	%ile	Dist. Avg.	Gr. Eq.	%ile	Dist. Avg.	Gr. Eq.	%ile
Gr. 1:	36.04	42.60	2.6	78	40.03	2.2	67	40.57	2.2	69
Gr. 2:	43.50	46.35	3.0	58	47.29	3.1	62	47.01	3.1	61
Gr. 3:	50.27	53.67	4.1	62	53.15	4.0	58	53.85	4.1	60

B. The Iowa Test of Basic Skills was administered each year in October. The 1969-70 scores show an abrupt rise; this is partially due to the fact that our three Title I schools in which pupil transiency is marked were not included in this year's evaluation. Santa Monica students are achieving two or three months above the national norms.

		1967-68			1968-69			1969-70		
	Nat. Norm	Dist. Avg.	Gr. Eq.	%ile	Dist. Avg.	Gr. Eq.	%ile	Dist. Avg.	Gr. Eq.	%ile
Gr. 4:	40	44	4.2	62	42	4.1	56	50	4.6	80
Gr. 5:	50	53	5.4	57	52	5.4	54	57	5.6	68

The objectives as stated in the addendum to the 1969-70 project proposal and the extent to which these objectives were achieved are as follows:*

*See Appendix A, Objective Evaluation, and Appendix B, Subjective Evidence, or Instruments and Data. Due to the nature of the Grade Six Pilot Study, no tests were administered at this grade level.

A. Inquiry

1. Objectives include recognizing/generating problems; recognizing/generating theories; using appropriate data sources; evaluating, refining, testing theories; predicting consequences of theories; selecting future courses of action; accepting, rejecting or tabling theories.

2. No objective evidence was amassed on this area of the program due to limitations of project staff time. However, the teacher consultants have subjectively evaluated the students with whom they come in contact and have made the following observations based on the criteria:

   a. Given a simulated (and appropriate) problem, eighty percent of the students, grades one through six, can generate appropriate theories.

   b. Given a simulated (and appropriate) problem, eighty percent of the students, grades one through six, cannot select appropriate data sources. Primary grade students require a great deal of teacher intervention and guidance, and the percentage of those students reaching the designated criteria level is more nearly ten to twenty percent. However, in grades three through six, with training, eighty percent of the students can perform to the desired level.

   c. Eighty percent of the students, grades one through six, did generate their own problem focuses. However, the percentage of students able to act on these problems and engage in further research decreases rapidly as one moves from grade six down to grade one.

   d. Eighty percent of the students, grades four through six, did not learn to proceed through the DATA-THEORY-DATA loop. Where teachers employed inquiry-oriented activities much of the social studies time, students quite rapidly learned to "play the game" and between forty and sixty percent of the students did become adept at the process. Much more training of teachers and pupils must occur before this criterion is attainable.

   e. Eighty percent of the students, grades four through six, did not learn to predict the consequences of their hypotheses. We made no attempt to measure the extent to which students could predict, as we were primarily concerned with teaching the students how to use the processes in analyzing problems which could be resolved.

   f. No objective instruments were finalized which would evaluate teachers' growth in the establishment of atmospheres conducive

to inquiry. The teacher consultants have subjective evidence which has assured us that most of the teachers have moved along the continuum from teacher-directed activities to learner-centered activities, thus progressing from teacher input to child exploration and inquiry.

B. Understanding of the Natural Environment

1. Objectives include ability to sequence natural phenomena, analyze effect of natural events upon the physical environment, understand the relationships between all aspects of the physical environment, understand the principles of ecology, understand the effects of natural events upon ecology, and to apply concepts gained through analyses of immediate environments to those removed in time and/or space.

2. Objective evaluation and the extent to which children approached the criteria are as follows:

a. Eighty percent of the students, grades three through six, were to achieve the following scores on Test Three--Map Reading and Physical Geography (analyzing extent to which students could work with a contour map of an unknown region):

	Criteria (minimum score)	Performance (% reaching criteria)			Score attained by 80%		
		67-68	68-69	69-70	67-68	68-69	69-70
Grade Three	5	78	58	81	4.8	3.5	5.0
Grade Four	9	na*	5	61	na	3.5	6.5
Grade Five	12	na	na	44	na	na	6.5

b. Raw Data, Test Three: Mean scores out of possible 22.

	1967-68			1968-69			1969-70		
	Pre	Post	Diff.	Pre	Post	Diff.	Pre	Post	Diff.
Grade Three	3.29	6.48	3.18	2.43	5.02	2.59	2.94	8.58	5.65
Grade Four	na	na	na	2.66	4.76	2.10	4.12	10.23	6.11
Grade Five	na	na	na	na	na	na	4.50	10.82	6.31

3. Subjective evidence from the teacher consultants indicates the following:

a. Few observations were made on the students' ability to sequence natural phenomena. When practiced, at least eighty percent of the students were able to perform this task.

b. At least eighty percent of students in grades three through six evidenced ability to analyze effect of natural events upon the physical environment.

*The notation "na" indicates that tests were "Not administered" at that particular grade level as the students were not involved in the project until a later year.

c. At least eighty percent of students in grades three through six understand the rudimentary elements of ecology and the interrelationships between various aspects of the physical environment.

d. All students grades three through six were exposed to analysis of comparative environments. Through use of many varied materials, most students could analyze environments removed in space, using concepts gained through analysis of immedia e environments. However, analysis of environments removed in time proved difficult for at least half of our students. When sufficient data was introduced (i.e., before the coming of man, the Los Angeles Basin had these animals, these plants, this climate, etc.), and ample time allowed for assimilation of the meaning of the data, most children could hypothesize the way of life of a primitive people who would inhabit the area.

C. Understanding of Cultural Environments

1. Objectives included understanding the interrelationships of man and land, applying principles of land utilization to unfamiliar regions, comparing various land utilization systems, synthesizing commonalities of various land utilization systems, evaluating man's manipulation of the geographic environment, understanding the historic differentiation of various selected cultures, and understanding the political, economical, and sociological structures of various selected cultures.

2. Objective evaluation and the extent to which children approached the criteria are as follows:

a. Seventy percent of the students, grades three through six, were to achieve the following scores on Test Four, Part I--Comparative Geography (analyzing extent to which pupils could compare regions) and Part II--Historical Geography (analyzing extent to which students understand the historical background of the regions under study at that particular grade level):

	Criteria (minimum score)	Performance (% reaching criteria)			Score attained by 80%		
		67-68	68-69	69-70	67-68	68-69	69-70
Grade Three	20 (46%)	94	92	96	25	24	23
Grade Four	26 (60%)	na	70	80	na	24	26
Grade Five	31 (71%)	na	na	46	na	na	26

b. Raw Data, Test Four: Mean scores out of possible 43.

	1967-68			1968-69			1969-70		
	Pre	Post	Diff.	Pre	Post	Diff.	Pre	Post	Diff.
Grade Three	22.92	25.51	2.59	24.11	26.37	2.27	22.39	27.56	5.18
Grade Four	na	na	na	24.87	28.04	3.18	25.35	29.06	3.71
Grade Five	na	na	na	na	na	na	28.09	30.23	2.14

3. Subjective evidence from the teacher consultants indicates the following:

   a. All children, grades one through six, have some understanding of man/land relationships. This concept becomes more complex as the student moves through the grades.

   b. Most children, grades one to six, have a basic understanding of the principles of land utilization. At least half of the students, grades three through six, can apply these principles to unfamiliar regions, can compare various land utilization systems (i.e., farming in Greece or Japan to farming in California), and can synthesize commonalities of various land utilization systems.

   c. All children, grades one through six, have been exposed to various ways man manipulates his physical environment, historically and today. Most of them are becoming more aware of the ravages perpetrated by man on his environment, and many students in the upper grades are beginning to evaluate the current status of the environment, to hypothesize as to the consequences of certain human acts upon the geographic environment and to act in accordance with good conservation practices.

   d. Students, especially grades three through six, have proved capable of examining various historic cultures, their customs, land-use practices, and level of technology; their political, economic, and sociological structures; and when possible, the interrelationships between sequent occupants of an area.

D. Symbolic Representation

1. Objectives included translating of nonverbal phenomena to symbolic representation, applying map skills from one media to another, understanding the principles underlying symbolic representation, recognizing map symbols, utilizing map symbols in constructing and interpreting a map, understanding principles of graphing, classifying features shown on an aerial photograph, synthesizing regional commonalities from an aerial photograph, and locating cultural and physical features according to a coordinate map system.

2. Objective evaluation, and the extent to which children approached the criteria are as follows:

   a. Seventy percent of the students, grades one and two, were to achieve the following scores on Test One--Use of Coordinates Within a Grid System (analyzing extent to which children could construct a coordinate system and use this grid in "moving" from place to place on a map):

	Criteria (minimum score)	Performance (% reaching criteria)			Score attained by 80%		
		67-68	68-69	69-70	67-68	68-69	69-70
Grade One	10 (40%)	60	62	73	7.5	8	10
Grade Two	20 (80%)	6	13	36	11	10	11

b. Raw Data, Test One: Mean scores out of possible 22.

	1967-68			1968-69			1969-70		
	Pre	Post	Diff.	Pre	Post	Diff.	Pre	Post	Diff.
Grade One	5.25	11.11	5.86	5.97	10.97	5.00	6.33	14.28	7.95
Grade Two	6.04	12.69	6.65	8.50	12.18	3.68	10.40	15.99	5.60

c. Seventy percent of the students, grades one through five, were to achieve the following scores on Test Two--Air Photo Analysis (analyzing extent to which students could use an aerial photograph to identify, classify and differentiate elements, to hypothesize effect of certain actions and engage in logical "city planning"):

	Criteria (minimum score)	Performance (% reaching criteria)			Score attained by 80%		
		67-68	68-69	69-70	67-68	68-69	69-70
Grade One	15 (33%)	60	49	58	14	12	13
Grade Two	20 (44%)	24	26	39	14	15	16
Grade Three	25 (55%)	7	21	17	16	17	18
Grade Four	35 (78%)	na	5	1	na	19	20
Grade Five	35 (78%)	na	na	3	na	na	21

d. Raw Data, Test Two: Mean scores out of possible 36.

	1967-68			1968-69			1969-70		
	Pre	Post	Diff.	Pre	Post	Diff.	Pre	Post	Diff.
Grade One	6.37	15.89	9.52	6.19	14.20	8.01	7.47	15.31	7.83
Grade Two	8.85	16.41	7.56	11.27	16.66	5.39	12.99	17.90	4.91
Grade Three	12.14	17.63	5.50	13.71	18.77	5.06	16.19	20.01	3.81
Grade Four	na	na	na	16.05	20.52	4.46	18.41	22.21	3.80
Grade Five	na	na	na	na	na	na	20.61	24.30	3.69

e. Eighty percent of the students, grades three through six, were to achieve the following scores on Test Three--Map Reading and Physical Geography (see Part B, 2 preceding).

3. Subjective evidence from the teacher consultants indicates the following:

a. Given a variety of instructional materials and carefully planned lessons, ninety percent of grade one and two students can learn to interpret aerial photographs, ninety percent of grades three through six students can learn to interpret contour maps, and ninety percent of grades one through six students can learn to make their own maps using a level of symbolization appropriate to the developmental level of the student and to his background in map reading.

b. There are indications of overall success in teaching map skills due to the sequential program developed in the project which incorporated the following progressions:

(1) From concrete (models, photographs) to somewhat abstract (symbolized maps) to abstract (street maps, topographic maps)

(2) From known (immediate area) to less familiar (areas visited by pupils) to unknown (another city)

(3) From a small region (local neighborhood) to progressively larger regions (city, state, country, world)

(4) From three-dimensional tactile (models, raised relief maps) to two-dimensional (air photos, contour maps, street maps)

(5) In all of the above, transitions are gradual and sequenced through the primary grades into the upper elementary grades.

E. Regional Analysis

1. Objectives included identifying the elements of a given area, identifying the cultural and physical patterns of a given area, classifying these elements into discrete regions, understanding the principles for differentiating regions, applying the principles of regional analysis to unfamiliar regions, and comparing and contrasting regions.

2. Objective evaluation and the extent to which children approached the criteria are as follows:

a. Seventy percent of the students, grades four through six, were to achieve the following scores on Test Four, Part I--Comparative Geography (see Part C, 2 preceding).

b. Seventy percent of the students, grades four through six, were to achieve the following scores on Test Five--Regional Geography (analyzing extent to which children could compare and contrast differing regions):

	Criteria (minimum score)	Performance (% reaching criteria)			Score attained by 80%		
		67-68	68-69	69-70	67-68	68-69	69-70
Grade Four	15 (60%)	na	74	76	na	15	16
Grade Five	19 (75%)	na	na	43	na	na	17

c. Raw Data, Test Five: Mean scores out of possible 25.

	1967-68			1968-69			1969-70		
	Pre	Post	Diff.	Pre	Post	Diff.	Pre	Post	Diff.
Grade Four	na	na	na	14.46	16.15	1.69	14.64	16.80	2.16
Grade Five	na	na	na	na	na	na	15.57	17.64	2.07

d. Additional measurement of grade one to three pupil understanding of regional analysis is included in Test Two--Air Photo Analysis (see Section D, Part 2 b preceding).

3. Subjective evidence from the teacher consultants indicates the following:

a. Ninety percent of all students involved could learn to identify elements of a known region, to classify these elements into subregions, and to delineate those criteria differentiating known regions.

b. More than half of the students, grades two through six, could then apply these techniques to unknown regions.

F. The Spatial Relations section of the SRA STEA Short Test of Educational Ability was also administered to students, grades one through three, to see if there would be any unusual growth from year to year in pupils' ability to cope with abstract symbolization. Mean scores are indicated below. In most cases, the means did increase, although with little significance.

Grade Level	1967-68	1968-69	1969-70
1. One	15.23	15.48	15.86
2. Two	17.51	18.67	18.33
3. Three	19.60	19.96	19.98

It is estimated that the total cost of the evaluation did not exceed $1,000.00, excluding personnel time.

II. Briefly describe project endeavors in which the anticipated results have exceeded expectations, and those in which results have not measured up to expectations.

The greatest impact of this program has been the direct influence of the Teacher Consultants on the teaching-learning environment. Each Teacher Consultant was assigned to either three or four schools, depending on the size of the staff. Classroom teacher involvement with the project was voluntary as was their use of the Teacher Consultants. In every case, requests from teachers were so heavy that the Teacher Consultants were totally committed from 8:00 a.m. until 4:00 p.m. or later - often including lunch hours. The district has been very impressed with the results of this kind of service to teachers, so much so, that Teacher Consultants were used in other situations this past year. It is hoped that this kind of service may be utilized when other new programs are introduced.

The influence of the Teacher Consultants has been due to their constant contact with pupils, teachers and administrators in a totally nonthreatening atmosphere, using a variety of teaching strategies. The project team demonstrated lessons, conducted field study trips, worked with individual students in classroom settings, explained uses of materials and teaching techniques, led grade level meetings, prepared pupil and teacher materials, analyzed problems as needs arose and provided immediate feed-back to project director. This positive climate led to many changes in teacher classroom behavior. Teachers are beginning to group in social studies (many of them felt this was impossible and impractical, especially in primary grades), are beginning to help students pose questions and engage in the processes of Inquiry, are using the materials and teaching the geographic contents, and many are encouraging students to engage in independent research into topics and areas of greatest interest to them.

The Grade Six Outdoor School Pilot Program met with unqualified success. Four classes spent one week at the Los Angeles County Outdoor Education School at Camp Colby. Principals, teachers, students, parents and administrators are all thoroughly committed to the value of this experience. The students not only gained valuable first-hand knowledge regarding ecology, conservation, pollution, geology, geography, botany and all other aspects of their environment, but they gained even more in their understanding of and compassion for each other. All four teachers have reported that radical changes in individuals and in the class as a whole have occurred as a direct result of living and working together in this outdoor setting. The students accept the strengths and weaknesses of their peers, they are more aware of individual feelings, they cooperate more with each other and with adults, and they are far more capable of organizing themselves and directing an activity through to closure. One class was so thrilled with its experience and so determined that next year's classes should be able to participate, that they engaged in a series of fund-raising activities that so far will support more than twenty students next year. Questionnaires were mailed to parents of those students attending. All stated their support of the program and most added the

completely unsolicited statement that all children should be able to participate. The District will be able to continue this program in part, although the financial crisis makes full support impossible at this time.

Above all, pupil involvement in and enthusiasm for the project has exceeded all expectations. Teacher Consultants are met at the door of each school with: "What do you have for us today? Are we going to go on with the stream table? Hey, guess what I learned about landslides! Teacher, I know how to read a contour map! When are you going to take us on another trip? My dad took us to that place you told us about!" Etc., etc., etc. Parents call project personnel, teachers, and school administrators to volunteer their help, or to suggest places for students to go, or to ask for copies of the material their children are using, or to donate materials they know will be of help. These parent contacts arise directly from the interest of their children. It also is extremely gratifying to see previously nonachieving students become totally engrossed in the realia, maps, models, photographs, drawings, field study, etc., provided by the project, and actually contribute something to the class--perhaps for the first time.

The results which have not measured up to expectancy center around anticipated changes in teacher behavior. Probably we overanticipated the impact of the concepts, techniques and materials of the program, expecting to see radical change in all teachers. This, of course, did not occur. Many of our teachers did radically alter their approach to children, changing from information-giving to guiding, challenging and motivating the intellectual and emotional development of their students. Others moved along the continuum toward the desired behavior, while a few made no change whatever. In all cases where radical or substantial change has occurred, the teachers are committed to the new teaching techniques based on the changes they have noted in their students' approach to learning. In these classrooms, learning has become more exciting and meaningful to both students and teachers.

III. Report the effect of the project on the educational institution or agency by discussing what you consider to be the greatest change resulting from the project.

The greatest change attributable to the project has been the increased cognitive ability of those pupils in classes directed by teachers who have evidenced great growth. Those students at all grade levels who have been allowed freedom to explore their environment, to engage in Inquiry into problems or questions of interest to them, to work freely with the materials developed for the project, and to direct their own activities, have become more aware of their own cognitive potential. Teachers who have allowed their students to engage in such activity are constantly amazed by the maturity, the self-control and the motivation engendered when students are totally involved in pursuits of their own choosing. Many students who were poor readers, previously unmotivated, ESL, or EH as well as the "average" and "bright" students have been able to find some way of contributing to class or group exploration of a problem.

Concurrent with this pupil growth has been change in teacher behavior. Most of our teachers have moved along the continuum from teacher-centered teaching toward child-centered learning; several have made tremendous changes in the desired direction. However, the project staff is still somewhat discouraged in that we did not accomplish all we hoped for in this most critical area.

IV. Report the effect of the project on the cooperative agencies by (1) listing all the community agencies that cooperated in the project; (2) discussing the results of such cooperation; and (3) listing local educational agencies and counties which were served by the project and indicate any changes since the initial application.

A list of the community agencies that cooperated in the project and the result of this cooperation follows:

A. The Department of Geography, University of California at Los Angeles, has continued to lend its support. Dr. Logan spent time above and beyond the consultant fees included in the project in giving of his very expert knowledge and his valuable time. Project personnel have been granted total access to the UCLA map library where they have borrowed unusual maps, aerial photograph negatives, and rare books.

B. The Department of Anthropology, UCLA, has allowed students access to its artifacts, has led Indian "digs," and personnel from the department have given their time and resources to strengthening the grade three and four program.

C. The Los Angeles County PACE office has continuously responded to every request made by our district. The project has been immeasurably strengthened through the assistance especially of Helen James, Betty Chenney, and Ron Wood who have been more than generous with their time and effort. Cooperative effort has been expanded in designing of evaluative instruments, evaluation of project goals and objectives, and in researching the educational field for various needed materials.

D. The Los Angeles County Schools office has been most generous in releasing consultants to the project: Ben Strasser and Jim Rudolph have worked closely with project staff and teachers in the field of Inquiry; Jack Davidson assisted with planning the grade four overnight and the grade six camping program; Bill Dawson, Jim Rudolph, Dr. Burbank, and Dr. Palmer were released to assist with the district-wide, release-time In-Service program; and Mr. George Sitkie has been assisting project personnel with the design of various evaluative instruments.

E. Many departments of our Unified School District assisted in the program.

1. The Printing Department reproduced thousands of pages of pupil and teacher material.

2. The Transportation Department has totally revised their schedules to accommodate our field study trips.

3. The Business Office has been extremely generous in granting our many peculiar requests for unusual material.

4. The Printing Department and Instructional Materials Center at the City College have reproduced thousands of maps and air photos.

F. Many parents and local agencies have been of immeasurable assistance.

1. Mrs. Donovan Jacobs who has "lent" us the use of her tidepools and has worked with the students while they were exploring the sea life.

2. Mr. and Mrs. Donald MacFadyen and Mr. and Mrs. Birdsell who have assisted the project staff and district students on Indian digs.

3. Mr. Yamaguchi who has permitted the students to tour his Japanese nursery and has explained bonsai to them.

4. The West Los Angeles Buddhist Church which has arranged and conducted tours.

5. Hughes Market which allows the students to examine the Japanese foods it carries.

6. St. Sophia Greek Orthodix Church which has arranged and conducted trips.

7. Mr. Basil Barbini of the Grecian Importing Company who has arranged a special tour of his operation.

8. Mr. Ken Meade, photographer, who worked with children teaching them how to photograph their environment and who developed a photographic series of vegetation and sea life found in the Los Angeles Basin area.

9. The head librarian of the Santa Monica Public Library who gave assistance in gathering and furnishing material.

10. Mrs. Lorraine Murphy and Mrs. Marian Godshaw, local authorities on rocks and minerals, who have visited classrooms to assist pupils with their study.

11. Mrs. Gunnel of Gunnel Aviation, Santa Monica representative of Cessna Corporation, who arranged a full-day institute in Air Aviation Education for Santa Monica teachers and administrators and who will conduct classes on field study of the Santa Monica Airport.

12. Mr. Peterson, Santa Monica Harbor Master, who has arranged special educational talks by his staff for our pupils.

13. Mr. Richard Hathaway, Superintendent of the Vincent Thomas Bridge, Los Angeles Harbor, who has made special arrangements for our students to stop at the top of the bridge for an overview of the harbor.

14. Santa Barbara Botanic Gardens, Santa Barbara Museum of Natural History, Santa Barbara Oceanarium, and Rancho Santa Ana Botanic Gardens, all of whom have arranged special tours of their facilities to meet our needs.

15. Science Research Associates, Denoyer-Geppert, VTN Company, Nystrom, and other commercial companies who have prepared special material for the project.

16. Santa Monica Chamber of Commerce and various departments of Santa Monica City Hall who have donated materials and conducted field study tours of the area.

17. Sun Lumber Company, Los Angeles Harbor, which conducted numerous tours of their facilities.

18. Marina del Rey agencies which also conducted tours and/or provided materials and assistance, including the Chamber of Commerce, Department of Small Craft Harbors, Venice Vanguard newspaper, Union Oil Company, Dolphin Marina, Fiji Marina, Fisherman's Wharf, Harbor Master's Department, Fire Department personnel, the Jamaica Inn and the United States Coast Guard Station.

19. The Evening Outlook, Bay Area newspaper, and the Los Angeles Times newspaper, both of which have given excellent coverage and support to the project.

20. More than fifty parents who painted historical scale models, colored in test papers, corrected tests, and helped with many time-consuming often tedious tasks.

The project continues to involve the twelve elementary schools of the Santa Monica Unified School District, along with Pilgrim Lutheran and St. Augustine Episcopal Church schools. These are the only educational agencies to receive full benefit from the program. Staff members from a number of school districts visited the project at different times to observe the program, to preview materials and to select printed matter. The degree to which these visits benefited other educational institutions is unknown.

V. Discuss how project information was disseminated. Include such information as (1) the number of unsolicited requests for information; (2) the number of visitors from outside the project area; and (3) the estimated costs of such dissemination.

Due to the State Department directive to limit dissemination, project personnel made no effort to contact personnel outside of the project area either through published articles or through participation in conferences. However, more than seventy-five requests for information were received. The project was presented at the November meeting of the Four County Project and the December meeting of Title III Project Directors. In addition to State Department personnel, and despite requests to defer visitations until the 1970-71 school year, more than fifty persons visited the project during the year. Estimating the cost of dissemination is difficult; probably no more than $100.00 was expended on duplication of materials and project staff time.

VI. Describe the methods and procedures being developed to carry the project forward without Federal support after the designed approval period.

The Santa Monica School District has assumed all costs for carrying on the project following the end of Federal funding. Miss Lois Braun, Project Director and Curriculum Supervisor, will continue the supervision of the geography content, direct the In-Service program, collect suitable resource material and work particularly with teachers new to the project. Each school librarian will house, purchase and distribute appropriate instructional aids. A variety of teaching strategies will be employed, i.e., teaming, to provide training and to meet the needs of teachers using the new content for the first time. Special filmstrips will be developed and books purchased from information gathered by a three member team - two teachers and Project Director - who were granted a sabbatical to visit selected countries and gather original information for classroom use. All replacement materials and equipment will be supplied by the district, all Field Study will be continued, and at least four grade six classes will participate in the Los Angeles County Outdoor School program. Unfortunately, the district cannot assume any costs for dissemination.

VII. List costs for budget period this narrative report covers:

$ 115,000.00	Total cost
$ 12,000.00	Total non-Federal support (estimated)
$ 103,000.00	Total Federal support under Title III, P. L. 89-10
$ -0-	Total Federal support other than Title III, P. L. 89-10

APPENDIX A

OBJECTIVE EVIDENCE

PART I--DISTRICT-PRODUCED INSTRUMENTS

Following are those tests produced by district personnel and administered to pupils grades 1-5. We have not included commercial tests (SRA Short Test of Mental Maturity, Houghton Mifflin Primary Social Studies Test, and the Iowa Test of Basic Skills) as they are available elsewhere.

PRIMARY SOCIAL STUDIES
TEST ONE
USE OF COORDINATES WITHIN A GRID SYSTEM
GRADES ONE AND TWO

Directions for teacher:

1. Test one-half of your class at a time leaving as much space between children as possible. Perhaps you and another teacher can work this out together.
2. Pass out the following to each child:
   a. One incomplete pictorial map showing an orange school, red house, green grocery store, yellow house and blue lake. Print each child's name on the back of his map.
   b. Crayons - one each of black, red, green, yellow, blue and orange.
   c. One ruler - If the children ask about the ruler, just tell them that you thought some of the class might want to use it. At no time do you tell the pupils how to use the ruler or when to use the ruler.
3. During the test, please help any child who has difficulty identifying his colors by holding up the crayon which you want the children to use. This is not a test to determine children's color sense. Be sure that each child has identified each structure during the map orientation segment. However, do not indicate the items on the map in any way after testing has begun.

Map orientation (give orally):

1. This is a map of Tom's neighborhood. Put your finger on the orange school...on Tom's red house...on Mr. Green's grocery store...on Sally's yellow house...on the blue lake...
2. In front of each of the buildings is part of a street. Put your finger on the street in front of the school...on the street in front of Tom's red house...on the street in front of Mr. Green's grocery store...on the street in front of Sally's yellow house...
3. Any time you want to draw some more streets on the map you may use your black crayon. (Do not tell the students how or where to draw the streets.)

Test: (Please give this portion of the test orally as it is written. Do not allow questions, as the question itself may give clues to other children. Tell each child to put down his crayon and fold his hands when he has completed each answer. Continue to the next question when all crayons are down.)

1. Tom goes to the orange school. He has been in school all day and now it is time for him to go home. Use your red crayon and draw a line to show the way Tom would walk home.
2. After Tom gets home his mother sends him to the grocery store to buy some ice cream. Use your green crayon to show how Tom would walk from his house to Mr. Green's grocery store.
3. Remember, any time you want to add more streets you may use your black crayon.
4. Sally is in Tom's class at school. Use your orange crayon to show how she would walk from her yellow house to the school.
5. After school Tom is going to a party at Sally's house. On the way he has to stop at the grocery store to buy some paper plates for the party. Use your yellow crayon to show how Tom would walk from his school to the grocery store, and then to Sally's house.
6. Remember, you may add streets with your black crayon any time you want to.
7. Tom's teacher takes his class to the lake one day. Use your blue crayon to show how the class would walk from the school to the lake.
8. Billy lives on a corner between Tom's house and Sally's house. Use your black crayon to draw a house where Billy might live.
9. If you would like to draw any streets to finish your maps, you may do so.

(Collect each paper when the child indicates that he has finished.)

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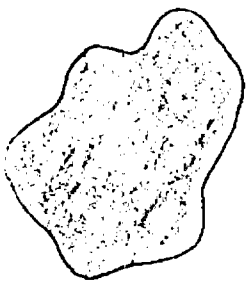

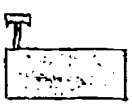

PRIMARY SOCIAL STUDIES
TEST TWO
AIR PHOTO ANALYSIS
GRADES ONE, TWO AND THREE

Materials: Each child should have the following:

1. One aerial photograph with the child's name printed on the back.
2. Crayons--red, blue, black, green.
3. One ruler.

Directions: (Give orally.)

Each one of you has four crayons in front of you. Hold up your red crayon...blue crayon...black crayon...green crayon. You also have a special photograph of a city. I am going to ask you to answer some questions about this photograph. For each answer you will put a mark on the photograph. I will write each kind of mark on the board as you need to use it. Listen very carefully to each question, and then do what I ask you to do. Once we have begun I cannot answer any questions. When you have finished each answer, please put down your crayon and fold your hands.

(Knowledge--simple identification)

1. Use your black crayon and put a numeral (1) on an intersection.
2. Use your black crayon and put a numeral (2) on a parking lot.
3. Use your black crayon and put a numeral (3) on a mine or a quarry.

(Comprehension--understanding function of an area)

4. Draw a red X on a vacant lot where you might build a factory.
5. Draw a blue X on a vacant lot where you might build a multiple family residence.
6. Draw a green X on a vacant lot where you might build a department store.

(Application--applying knowledge to a new situation)

7. Betty lives in the red house. She goes to the blue school. Draw a red line to show the shortest way Betty can walk to school.
8. Betty and her mother need some bread from the local grocery store. There is a store just one block from Betty's house. Draw a blue line to show how Betty and her mother would walk to the store.

9. Betty's family needs to do some shopping in the Central Business District. Draw a green line to show how the family would drive from their house to the Central Business District.

(Analysis--identifying elements and analyzing their relationships)

10. The city council wishes to build a freeway through their city. Draw a black line across the map which shows the least costly route for the freeway.
11. This city is becoming overcrowded. Single family houses must be torn down and high-rise apartments built in their place. Use your red crayon and color in solidly one block which you think can be changed from single to multiple family residences at the least cost to the city.
12. The city council is concerned because more and more people are shopping outside the city. They decide to build a mall like Santa Monica's mall. Draw a red line down the street where you would locate a mall.

(Synthesis--grouping all like elements according to learned criteria)

13. Draw a red line completely around a residential area.
14. Draw a blue line completely around the industrial zone.
15. Draw a green line completely around the Central Business District.

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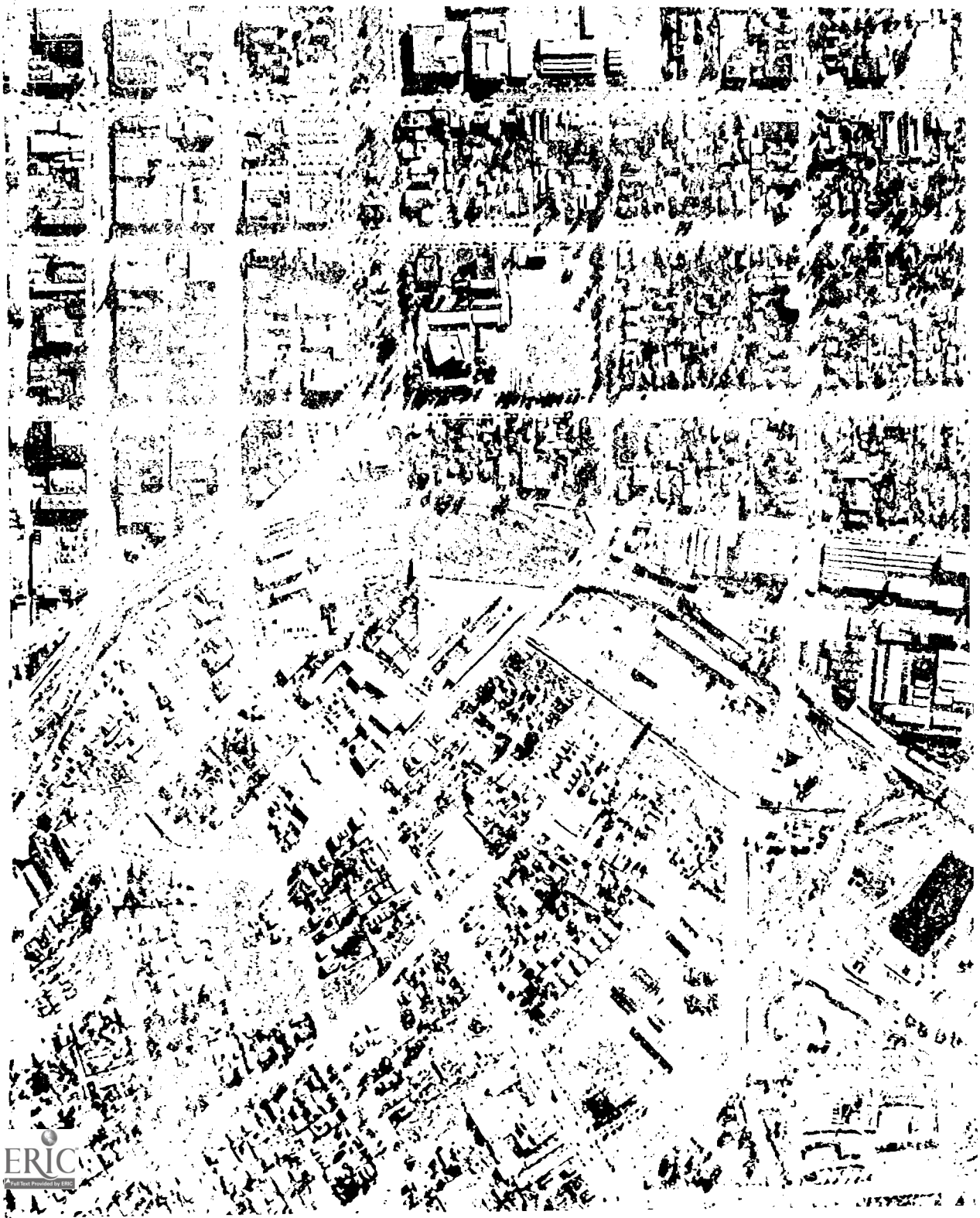

PRIMARY SOCIAL STUDIES
TEST THREE
MAP READING AND PHYSICAL GEOGRAPHY
GRADE THREE

Materials for each child:

1. One test map
2. One map legend attached to test map
3. One set colored pencils
4. One ruler

Directions for teacher:

1. Test only one-half of your class at a time. Perhaps you and another teacher can cooperate on this.
2. Pass out all material and have each child write his name on top of the map.
3. Tell each student to place his pencil on his desk and fold his hands after he has completed each answer. Continue to the next question when all children are ready.
4. Please do not help the children in any way.
5. Give the test orally as it is written.

Map orientation (give orally):

This is a map of a region with a very high rate of rainfall and a mild climate. All of the bodies of water are shown in blue. The large body of water on the left of the map is called a sound. This sound is connected to an ocean. Put your finger on the sound.

With the map is a legend which you may use to answer any questions. Once we have begun, I cannot answer any questions.

Please listen carefully to each question. Then do your best to answer the question.

Section I: Use your black colored pencil and:

(Knowledge)

1. Place a numeral (1) on the largest island on the map.
2. Place a numeral (2) on a valley cut by a river.
3. Place a numeral (3) on one of the highest points of land.

(Comprehension)

4. Place a numeral (4) where you would find a delta.
5. Place a numeral (5) where you might find a large commercial harbor.
6. Place a numeral (6) where you might find riparian vegetation.

(Application)

7. A great deal of lumber is cut in this area. When the lumber has been cut at a sawmill, it is shipped out of the area by water. Place a numeral (7) where you might find a large sawmill.
8. There is a large sand and gravel industry in this area. Place a numeral (8) where you would expect to find mining operations.
9. The sand and gravel is shipped to market by rail and then by ship. You have located a harbor at numeral (5). Use your red pencil and draw a railroad which would serve to move these products most economically from their source to the harbor.

(Analysis)

10. There is a need for more electric power in this area to serve the cities. The government decides to build a hydro-electric plant to supply this power. They need to place that plant where the water is rushing down an incline. Place a numeral (10) in the best location for this hydro-electric plant.
11. About 25,000 people a day cross the large lake from one side to another. Select the best place to cross the lake. Select the most economical way to cross. Then use your black pencil and the legend to illustrate both the place where the people will cross and the way they will cross.
12. The water level in the large inland lake is several feet higher than the water level in the sound. Ships often pass between the two bodies of water. Using the legend and your black pencil, draw in the feature that makes this possible.

(Synthesis)

13-15. There is a large city on this map. The city has three major regions in addition to residential areas: a very large commercial area, one large Central Business District area and a large recreational area. First, locate the best area for this city. Then, using the legend and the correct pencils, color in these three areas where you think they would be located.

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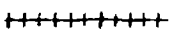
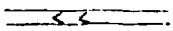
MAP LEGEND

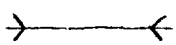
1" = 5 miles


Railroad


Lock on canal


Dam


Ferry route


Bridge


Rivers

Elevation contours


Bodies of water


Industrial


Central Business District


Recreational

PRIMARY SOCIAL STUDIES

TEST FOUR
GRADE THREE

COMPARATIVE GEOGRAPHY
PART I

Directions - Circle the number of the correct answer or answers for each of the following questions:

A. In what ways are southern California and Greece similar:
   1. Topography
   2. Climate
   3. History
   4. Agriculture
   5. Language
   6. Industry
   7. Culture

B. The people of Greece were involved with trade, agriculture, architecture and sculpture, lived in cities, and had a very advanced government at the same time as our California Indians were living in primitive societies. Choose one or more of the following to explain this difference:
   1. Location
   2. Climate
   3. Population
   4. Natural Resources
   5. History

C. Most of the people of Greece today raise only enough food for their own family, have very little cash, and seldom leave their land. Most of the people of California depend completely on others for their food, deal totally in cash, and travel a great deal every day. Choose one or more of the following to explain this difference:
   1. Location
   2. Climate
   3. Population
   4. Natural Resources
   5. History

D. Every possible inch of land in Greece, including the hillsides, is used to grow crops while many of southern California's hillsides are uncultivated. Which one of the following tells why:
   1. The Greek farms his own land and feeds his own family in large part while the Californian depends on others.
   2. The rainfall in Greece does not cause erosion of good soil from the mountain sides as rapidly as does the rainfall in California.
   3. Many more people live in the Greek countryside so more of the good soil in the valleys is used for housing.

E. More people leave Greece every year than come into the country. Many more thousands of people come into California every year than leave. Which of the following are probable reasons for this difference:
1. People don't like the climate in Greece and do like the climate in California.
2. There are many more job opportunities in California than in Greece.
3. People in Greece have more money for travel.
4. Greece at present cannot feed all of its people.

HISTORICAL GEOGRAPHY
PART II

A. A primitive people use rock to build their houses. Choose one of the following to tell why:
1. They only know how to work with rock.
2. Rock is a very common resource in their environment.
3. Wood and brush burn too easily.
4. The weather is too rainy to use any other material.

B. Another primitive people eat only fish, berries, and small animals. Choose one or more of the following that are probably true:
1. These things are available in their environment.
2. They have not yet learned to plant crops.
3. They do not like other foods.
4. They sell all the animals they raise as a cash crop.

C. Certain tribes of people move constantly from place to place, carrying all their possessions with them. They also have many animals which move with the people. Which of the following are probably true given just these facts:
1. The men are farmers.
2. The people are nomads.
3. They trade with other tribes.
4. They live in a hot, dry climate.
5. They build houses of stone.
6. They own few possessions.

E. A mountain divides two groups of people. The people on the eastern slope of the mountains live in established communities, engage in trade with other peoples, and have an advanced agricultural society. The people on the western slope of the mountain live a nomadic life, trade very little with other peoples, and practice no agriculture. Which one of the following is probably true:
1. The eastern slope has a milder climate than the western.
2. There are more people living on the western slope than the eastern.
3. The people on the western slope of the mountains have a more advanced culture than those on the eastern slope.

D. The only crop of an area is citrus. Which of the following are probably true about the area:
1. The people engage in trade with other people.
2. The climate is of a Mediterranean type.
3. The culture is quite advanced.

SANTA MONICA UNIFIED SCHOOL DISTRICT
Division of Instructional Services

SOCIAL STUDIES

TEST FOUR
PART I
COMPARATIVE GEOGRAPHY

Directions - The teacher will read each problem and possible answer, and as you listen, circle the number of the correct answer or answers (there may be more than one) for each of the following questions:

A. In what ways are California and Japan similar:

1. Topography
2. Climate
3. History
4. Methods of farming
5. Language
6. Culture

B. The people of Japan were involved with trade, agriculture, lived in cities, and had a fairly advanced culture at the same time as our California Indians were living in primitive societies. Choose one or more of the following to explain this difference:

1. Location
2. Climate
3. Population
4. Natural Resources
5. History

C. The Japanese nation has been involved in two World Wars during the 20th century while seeking additional territory. California has not sought to increase its territory during the same period (neither has the United States). Which of the following explain this difference:

1. Location
2. Climate
3. Population
4. Natural Resources
5. Topography

D. Today every possible inch of land in rural Japan, including the hillsides, is used to grow crops while many of southern California's hillsides are uncultivated. Which one of the following tells why:

1. The Japanese farms his own land and feeds his own family in large part while the Californian depends on others.
2. The rainfall in Japan does not cause erosion of good soil from the mountain sides as rapidly as does the rainfall in California.
3. Many more people live in the Japanese countryside so more of the good soil in the valleys is used for housing.

E. Today the general population shift in California is from the city cores to the city fringes, from densely populated urban centers to sparsely populated suburban and rural areas. The general population shift in Japan is from the rural areas to the urban. Which of the following are probably causes of this difference:

1. There are more job opportunities in Japanese cities than in California cities.
2. California has a lower standard of living than Japan.
3. Japanese cities are less crowded than California cities.
4. The Japanese moves to the cities in hopes of a better way of life; the Californian moves to the suburbs for the same reason.
5. Mechanization and overpopulation are forcing the Japanese farmer off his land into the cities while pollution, overcrowding and rising standard of living are forcing the Californian out of the decaying central cities.

PART II
HISTORICAL GEOGRAPHY

A. A primitive people use rock to build their houses. Choose one of the following to tell why:

1. They only know how to work with rock.
2. Rock is a very common resource in their environment.
3. Wood and brush burn too easily.
4. The weather is too rainy to use any other material.

B. Another primitive people eat only fish, berries, and small wild animals. Choose one or more of the following that are probably true:

1. These things are available in their environment.
2. They have not yet learned to plant crops.
3. They do not like other foods.
4. They sell the animals they raise as a cash crop.

C. Certain tribes of people move constantly from place to place, carrying all their possessions with them. They also have many animals which move with the people. Which of the following are probably true given just these facts:

1. The men are farmers.
2. The people are nomads.
3. They trade with other tribes.
4. They live in a hot, dry climate.
5. They build houses of stone.
6. They own few possessions.

D. A mountain divides two groups of people. The people on the eastern slope of the mountain live in established communities, engage in trade with other peoples, and have an advanced agricultural society. The people on the western slope of the mountain live a nomadic life, trade very little with other peoples, and practice no agriculture. Which one of the following is probably true:

1. The eastern slope has a milder climate than the western.
2. There are more people living on the western slope than the eastern.
3. The people on the western slope of the mountain have a more advanced culture than those on the eastern slope.

E. The only crop of an area is citrus. Which of the following are probably true about the area:

1. The people engage in trade with other people.
2. The climate is of a Mediterranean type.
3. The culture is quite advanced.
4. This is a mountainous region.

MC:mkb
10/14/68
p. 1

MC:ma
8/27/69
pp. 2 and 3

PRIMARY SOCIAL STUDIES

TEST FOUR
GRADE FIVE

COMPARATIVE GEOGRAPHY
Part I

Directions - Circle the number of the correct answer or answers for each of the following questions:

A. In what ways were Europe and North America similar in the 1400's?
   1. History
   2. Settlement Patterns
   3. Technology
   4. Language
   5. Culture
   6. None of the above

B. The peoples of Europe today are divided into many separate nations, while the United States is one nation with fifty states. Choose one or more of the following to explain this difference:
   1. Location
   2. Topography
   3. Population Number
   4. History
   5. Natural Resources

C. The people of Europe were involved with trade and agriculture, lived in cities and had a fairly advanced culture at the same time as our American Indians were living in relatively primitive societies. Choose one or more of the following to explain this difference:
   1. Climate
   2. Topography
   3. Natural Resources
   4. History
   5. The Mediterranean Sea

D. The major European nations engaged in exploration of the Western Hemisphere were England, France, Spain, Holland and Portugal. Why do you suppose these "exploring nations" were involved and not Norway, Italy or Greece? Which one of the following partly explains why?
   1. The "exploring nations" were sea-faring nations, the others were not.
   2. The "exploring nations" were trading nations, the others were not.
   3. The location of the "exploring nations" made it more important for them to find a westward route to the riches of the East.

E. Life in Europe changed considerably following the exploration and colonization of the Americas. Choose one or more of the following to explain why.
   1. New foods were imported from the Americas, changing the eating habits of the Europeans.
   2. New crops were imported from the Americas, eventually changing the agricultural pattern of Europe from subsistance to specialized farming.
   3. Many people from the Americas moved to Europe.
   4. The Europeans adopted the more advanced technology of the Americas.
   5. Industries arose in Europe and Urban centers grew rapidly due to the increased trade in new products with the Americas.

HISTORICAL GEOGRAPHY
PART II

A. A primitive people use rock to build their houses. Choose one of the following to tell why:
   1. They only know how to work with rock.
   2. Rock is a very common resource in their environment.
   3. Wood and brush burn too easily.
   4. The weather is too rainy to use any other material.

B. Another primitive people eat only fish, berries, and small animals. Choose one or more of the following that are probably true:
   1. These things are available in their environment.
   2. They have not yet learned to plant crops.
   3. They do not like other foods.
   4. They sell all the animals they raise as a cash crop.

C. Certain tribes of people move constantly from place to place, carrying all their possessions with them. They also have many animals which move with the people. Which of the following are probably true given just these facts:
   1. The men are farmers.
   2. The people are nomads.
   3. They trade with other tribes.
   4. They live in a hot, dry climate.
   5. They build houses of stone.
   6. They own few possessions.

D. A mountain divides two groups of people. The people on the eastern slope of the mountain live in established communities, engage in trade with other peoples, and have an advanced agricultural society. The people on the western slope of the mountain live a nomadic life, trade very little with other peoples, and practice no agriculture. Which one of the following is probably true:
   1. The eastern slope has a milder climate than the western.
   2. There are more people living on the western slope than the eastern.
   3. The people on the western slope of the mountain have a more advanced culture than those on the eastern slope.

E. The only crop of an area is citrus. Which of the following are probably true about the area:
   1. The people engage in trade with other people.
   2. The climate is of a Mediterranean type.
   3. The culture is quite advanced.
   4. This is a mountainous region.

LB:MC:ma
9/19/69

TEST V--REGIONAL GEOGRAPHY
GRADES FOUR, FIVE, SIX

A. Two unlike regions are separated by only a topographic feature of high relief. Region A is heavily populated with greatly diversified agriculture and industry. Region B has little population, no agriculture and limited industry. Which of the following are probably true about these regions:
1. They are separated by a body of water.
2. They are separated by a high mountain range.
3. Region A was settled later than Region B.
4. Region A has less water than Region B.
5. Region A has a milder climate than Region B.

B. Climates of two regions are completely different. Region C is covered with snow and ice during much of the year, has a low average annual temperature and a high rate of precipitation. Region D is covered with dense vegetation, has a high average annual temperature and a high rate of precipitation. Which of the following are probably true about these regions:
1. Region C is higher in latitude or altitude than Region D.
2. Region C has a higher population density than Region D.
3. Region C has fewer natural resources than Region D.
4. Most of the natives of these regions would probably be farmers.
5. Most of the natives of these regions would probably not be farmers.

C. The transportation patterns of two regions are very different. The streets of Region E are set out on a fairly regular grid pattern, while the streets of Region F have no regular pattern of any kind. Which of the following are probably true about these regions:
1. Region E was probably settled earlier than Region F.
2. Region E probably has more level land than Region F.
3. Region E may be a large industrial center while Region F cannot be.
4. Region E has a milder climate than Region F.
5. None of the above.

D. The topography of two regions is entirely different. Region G is mountainous, while Region H is a large, flat plain. Knowing only these facts, which one of the following is most likely to be true:
1. Region G will have more precipitation than Region H.
2. Region G will be an area of erosion, while Region H will be an area of deposition.
3. Region G will be an area of deposition, while Region H will be an area of erosion.
4. Region G would be less suited to agriculture than Region H.
5. It would be easier to build a city in Region H than in Region G.

E. The vegetation of two regions is different. Region I is covered with alpine vegetation, while Region J is a grassland. Which of the following are probably true about these regions:
1. Region I is a desert, and Region J is a plain.
2. Region I is mountainous, and Region J is flat.
3. Region I would be less suitable for farming than Region J.
4. Region I has more snow than Region J.
5. Region I has a milder climate than Region J.

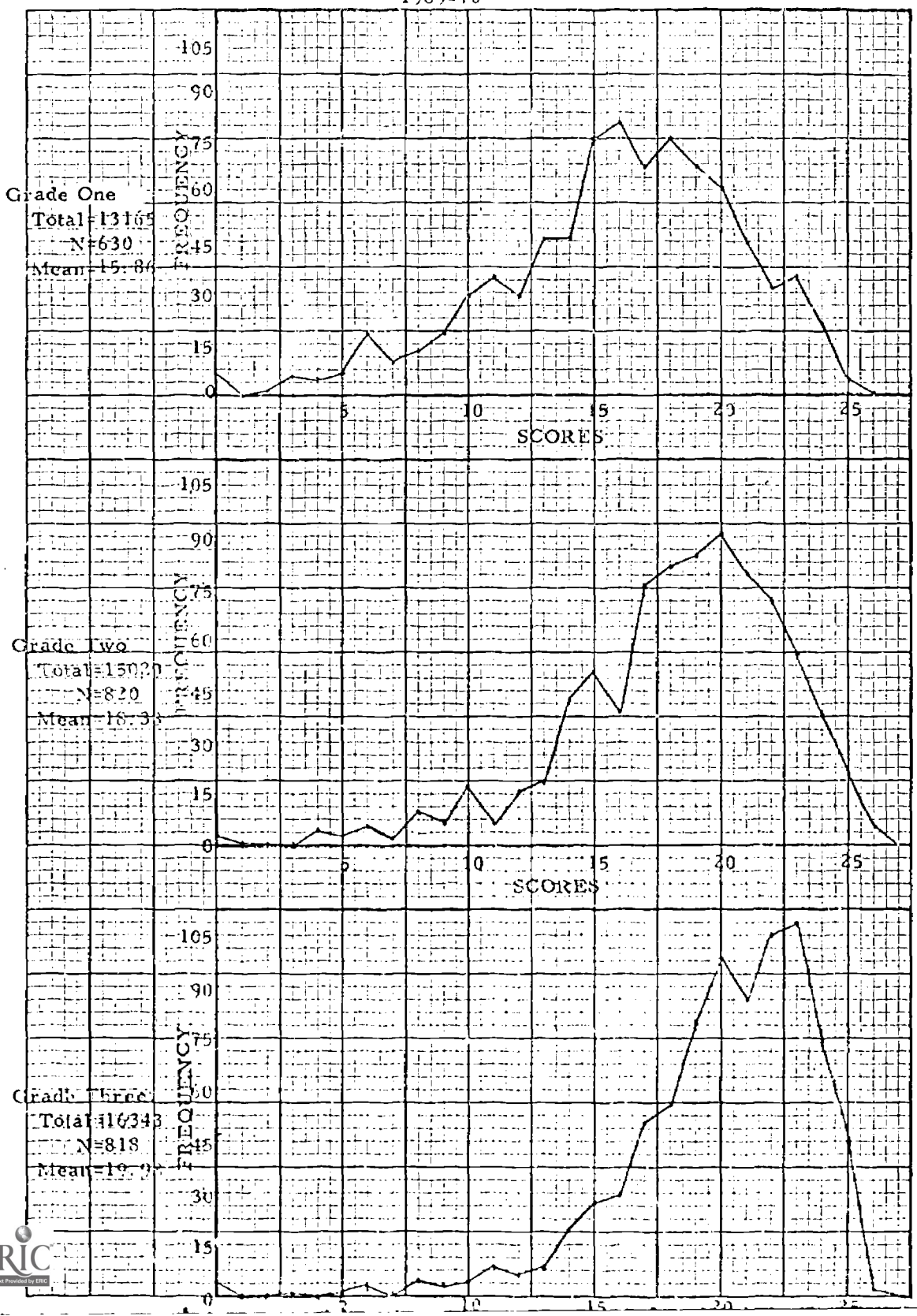
PART II--DATA

Following is the raw data for the years 1967-68, 1968-69, and 1969-70. The abrupt rise in student population (N) for the 1969-70 school year is solely due to the increased effort of the Teacher Consultants, who returned time and again to each school assuring that each child who was in attendance throughout the year had a complete battery of tests. In prior years, one or two "test make-up sessions" were scheduled at each school; following these, those students with incomplete batteries were removed from the rolls.

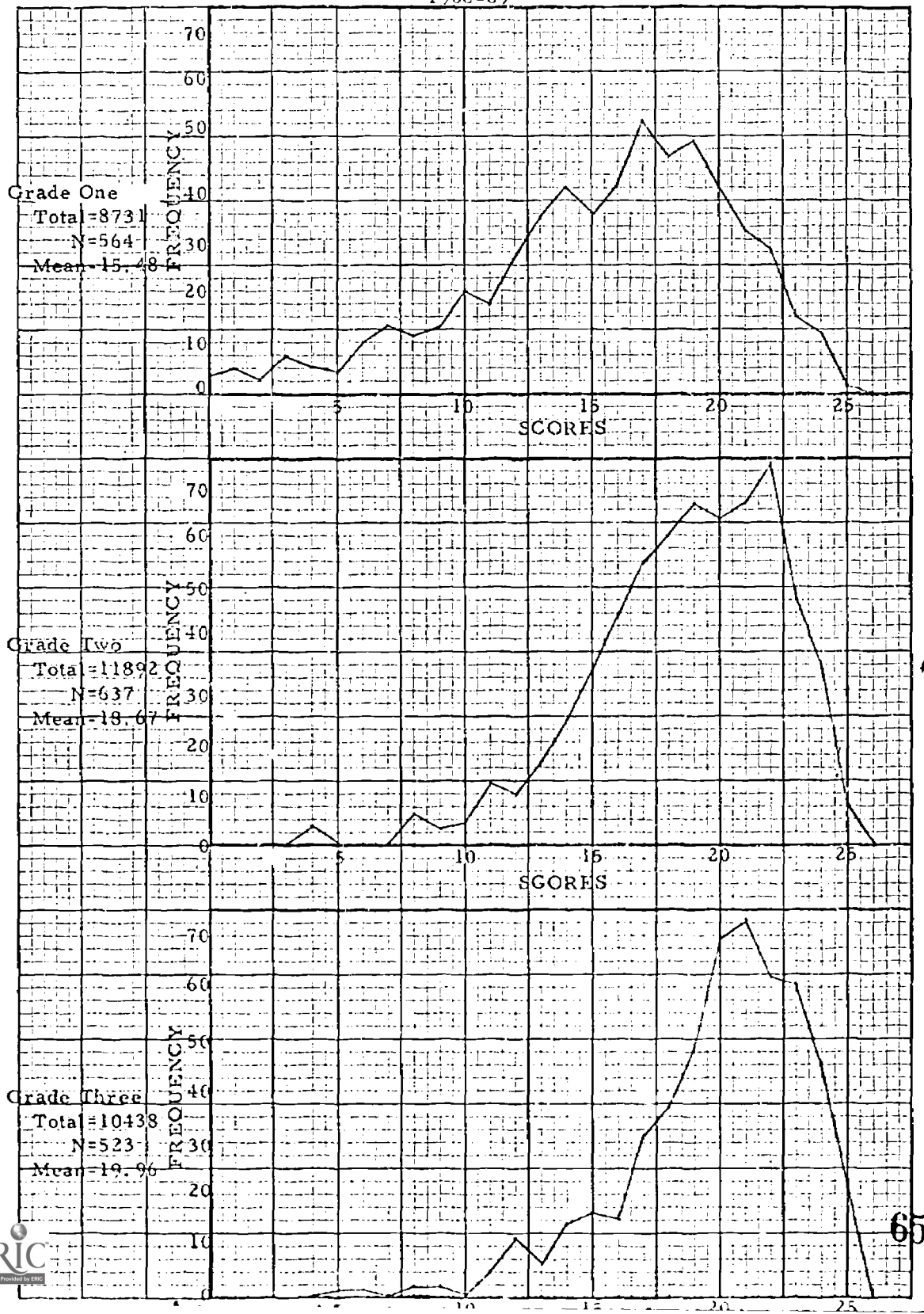
All students enrolled in regular classrooms were included in the teaching and testing population. This included many ESL, EMR and EH students.

SRA STEA Short Test of Mental Maturity

1969-70



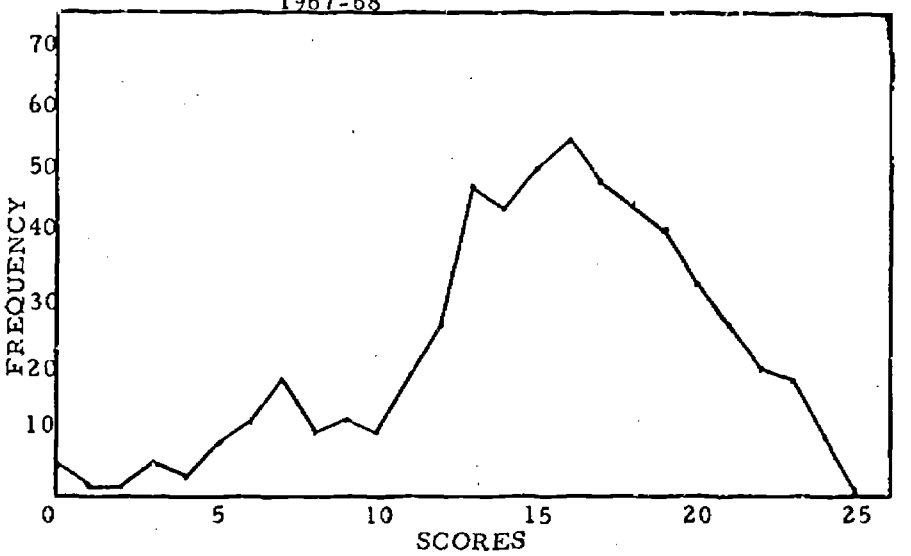
SRA STEA Short Test of Mental Maturity
1968-69



SRA STEA Short Test of Mental Maturity
1967-68

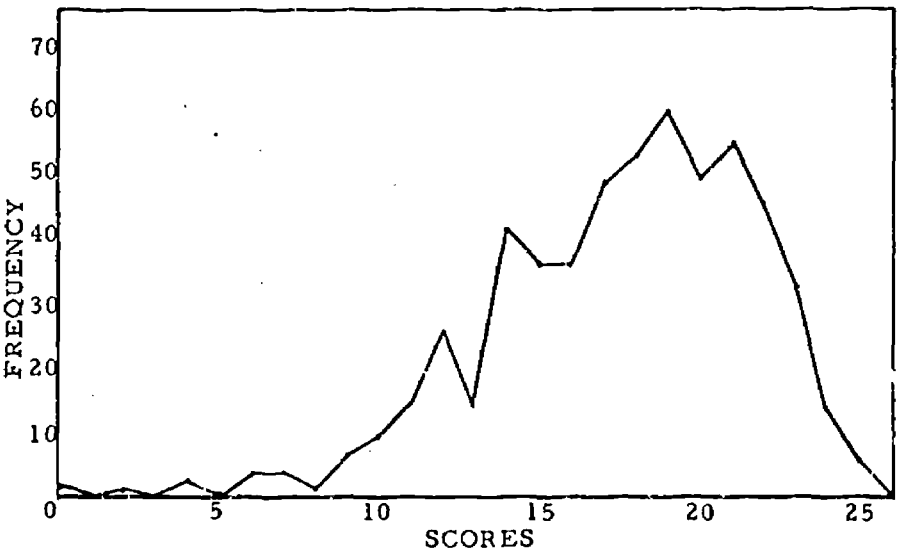
Grade One

Total=8773
N=576
Mean=15.23



Grade Two

Total=10091
N=576
Mean=17.51

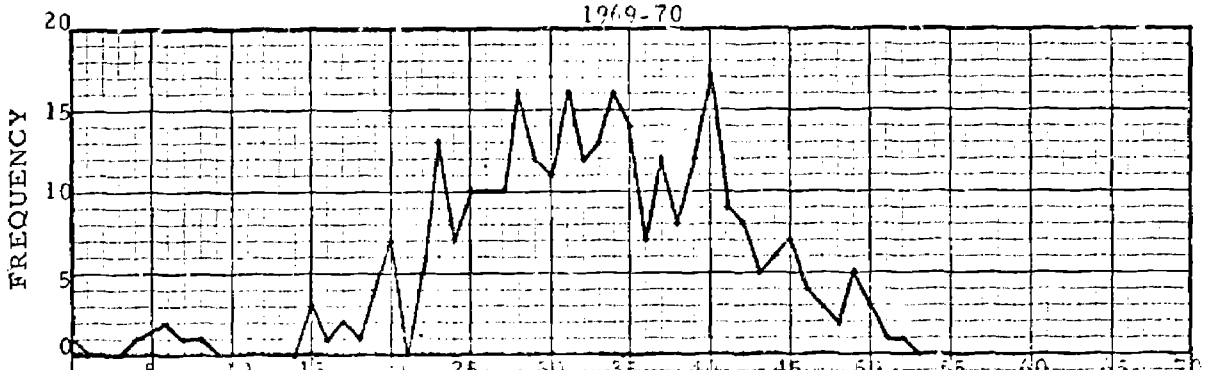


Grade Three

Total=8310
N=424
Mean=19.60

Houghton Mifflin Primary Social Studies Test--Pretest

1969-70



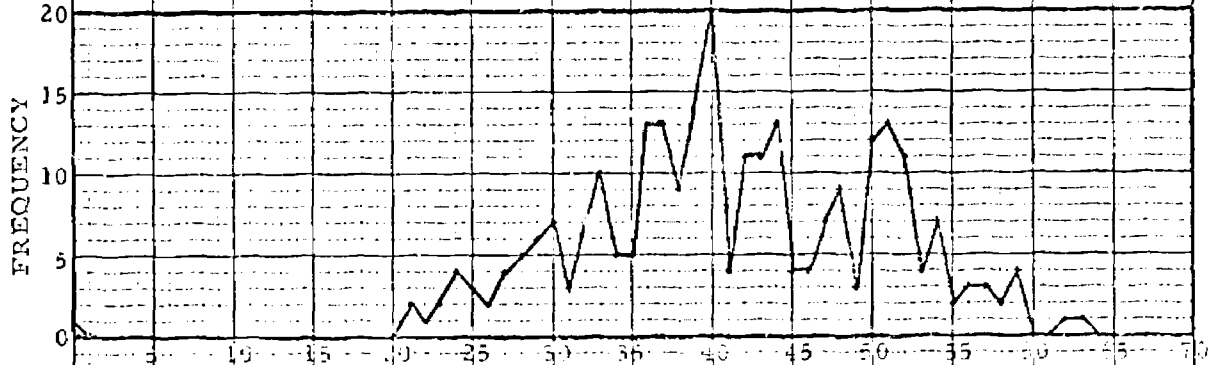
Grade One

Total=9752

N=290

Mean=32.62 Grade Equivalent=1.5

Percentile 37



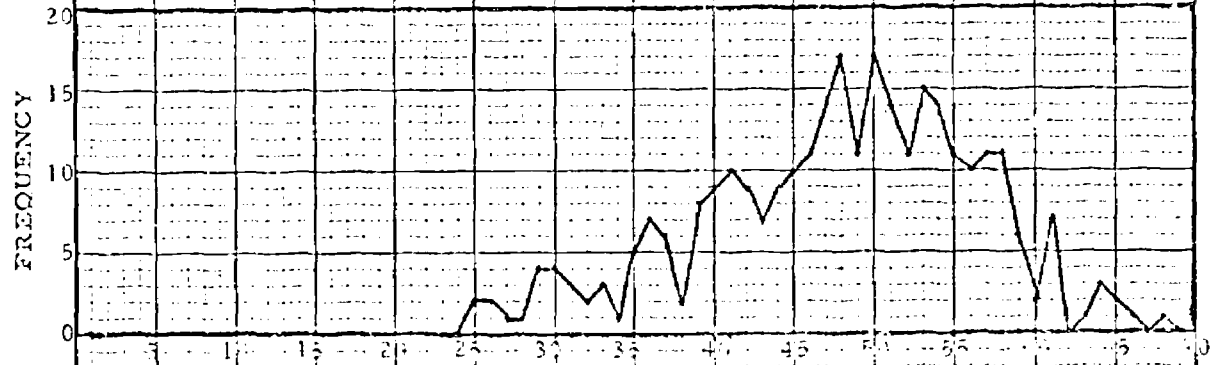
Grade Two

Total=10911

N=250

Mean=41.02 Grade Equivalent=2.3

Percentile=35



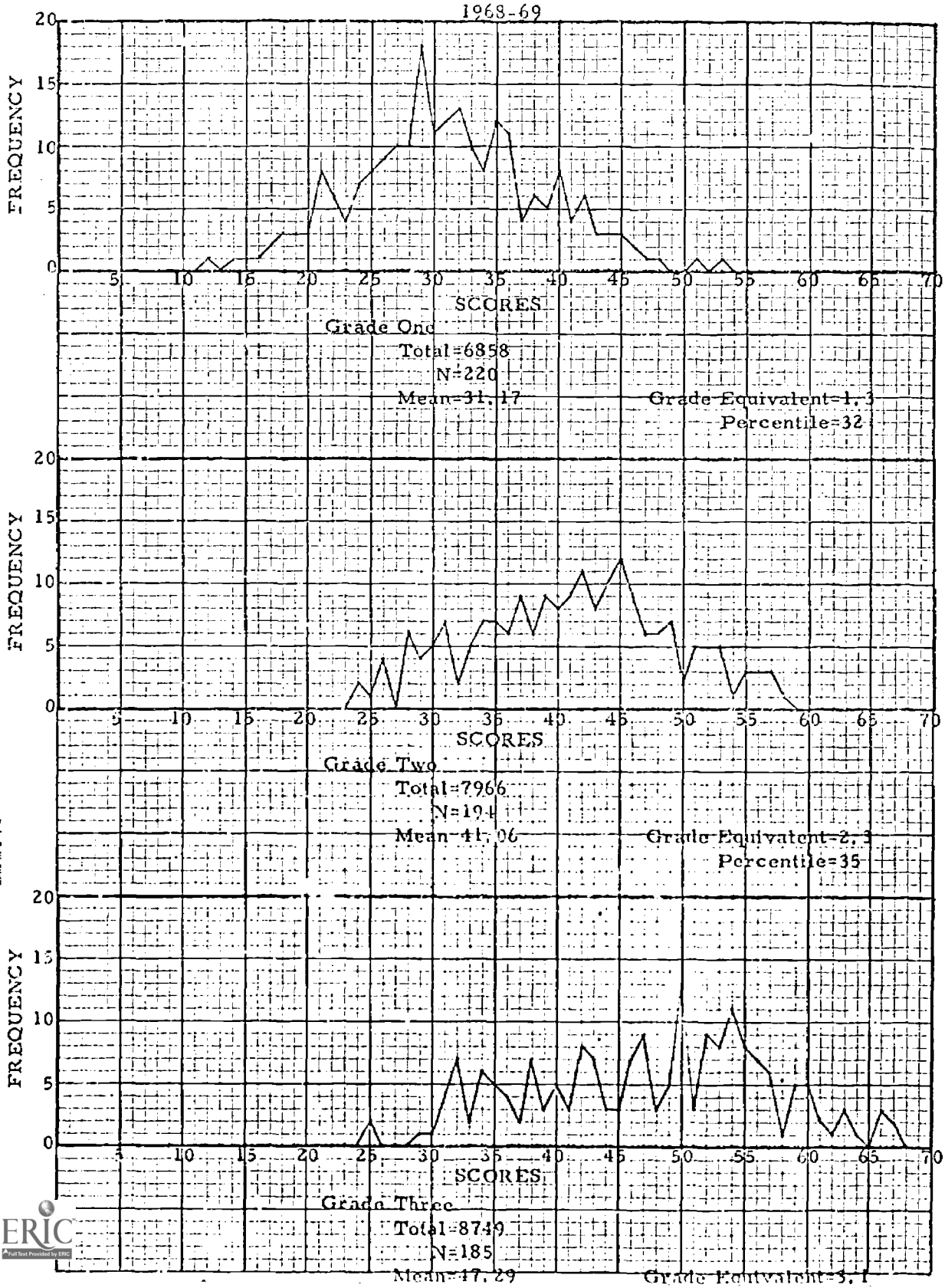
Grade Three

Total=14071

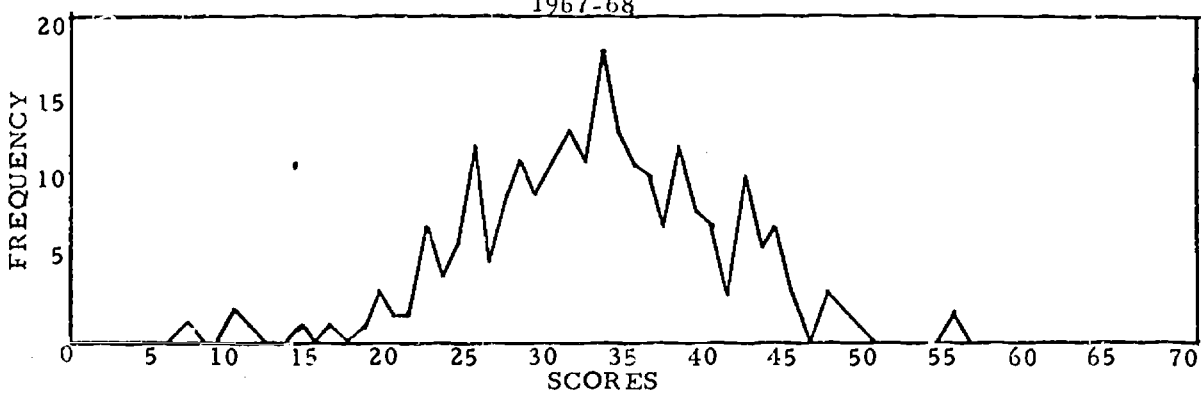
N=290

Mean=47.74 Grade Equivalent=3.2

Houghton Mifflin Primary Social Studies Test--Pretest
1968-69

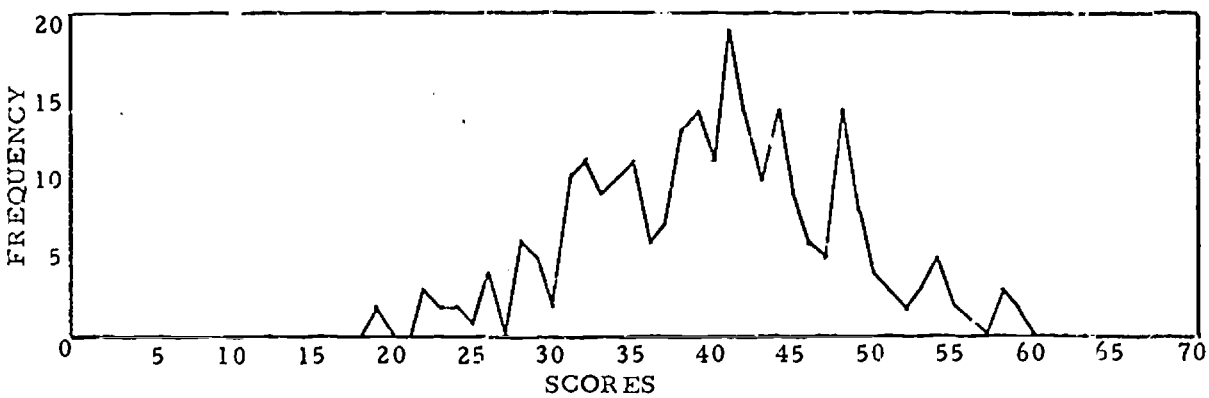


Houghton Mifflin Primary Social Studies Test--Pretest
1967-68



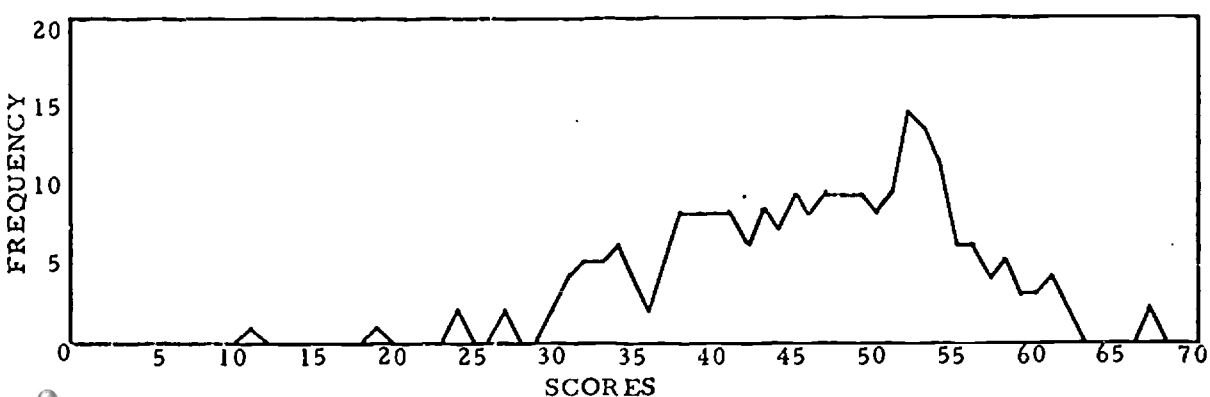
Grade One
Total=7670
N=235
Mean=32.64

Grade Equivalent=1.45
Percentile=36



Grade Two
Total=10076
N=253
Mean=39.83

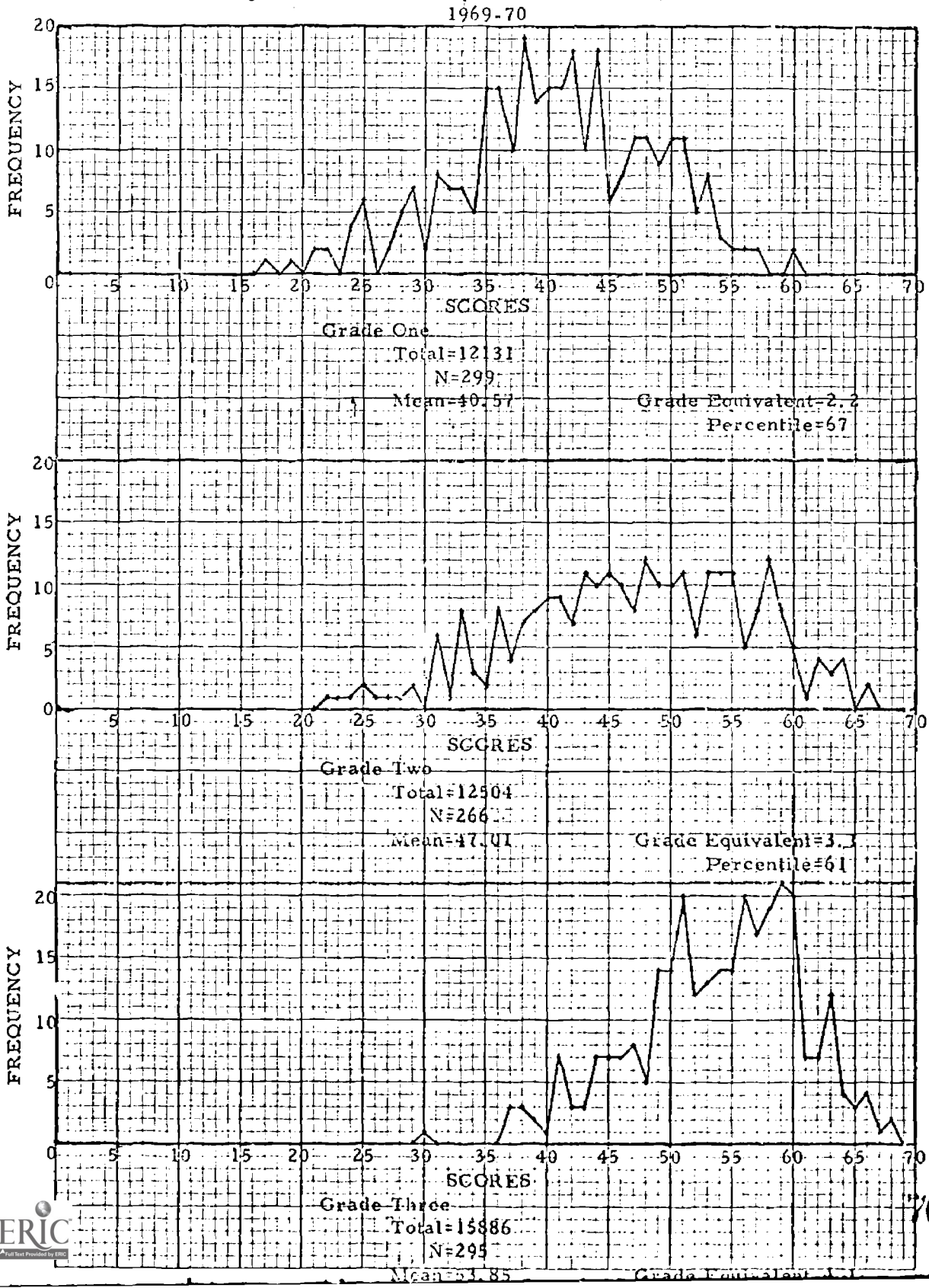
Grade Equivalent=2.2
Percentile=32



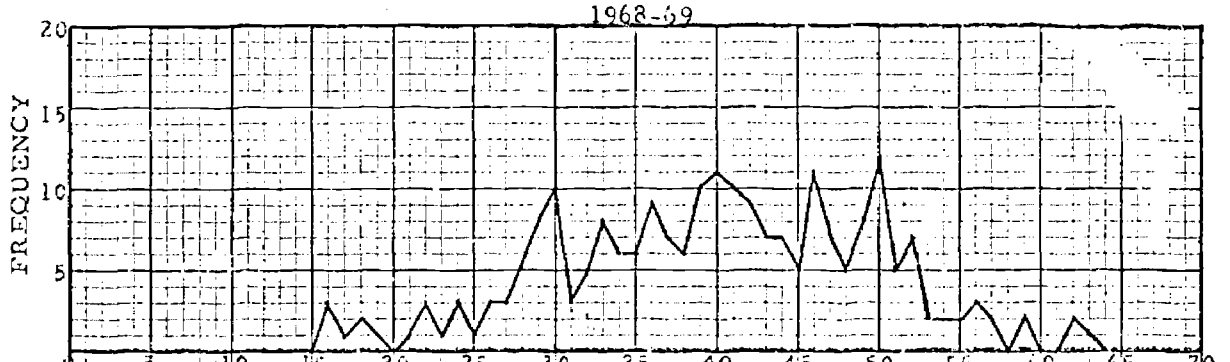
Grade Three
Total=10392
N=226
Mean=45.98

Grade Equivalent=3.0
Percentile=26

Houghton Mifflin Primary Social Studies Test--Post Test
1969-70



Houghton Mifflin Primary Social Studies Test--Post Test
1968-69

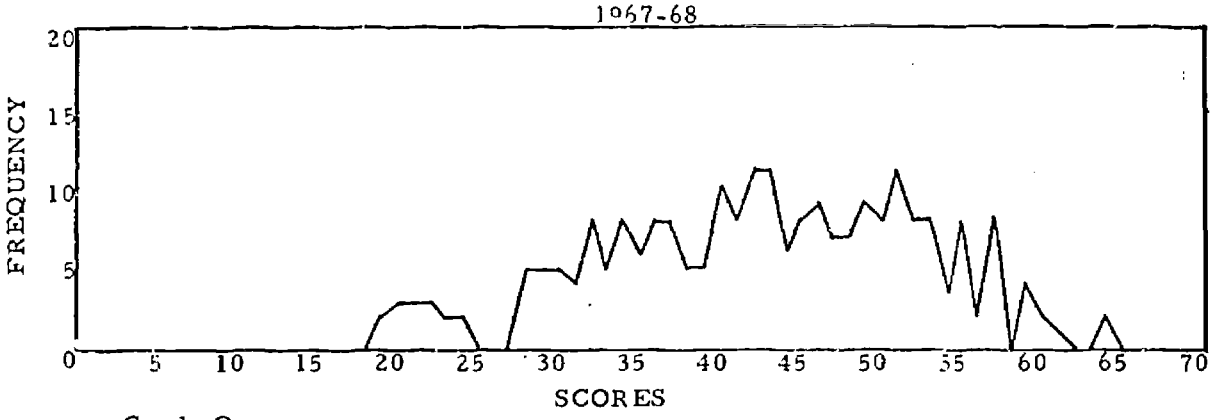


Grade One
Total=8806
N=220
Mean=40.03
Grade Equivalent=2.4
Percentile=67

Grade Two
Total=9175
N=194
Mean=47.29
Grade Equivalent=3.
Percentile=61

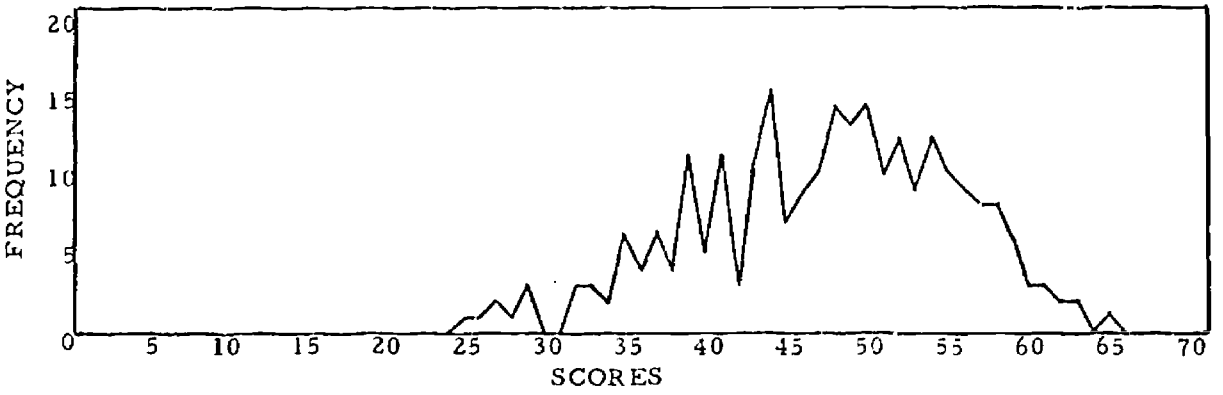
Grade Three
Total=9832
N=185
Mean=53.15
Grade Equivalent=4.0
Percentile=58

Houghton Mifflin Primary Social Studies Test--Post Test
1967-68



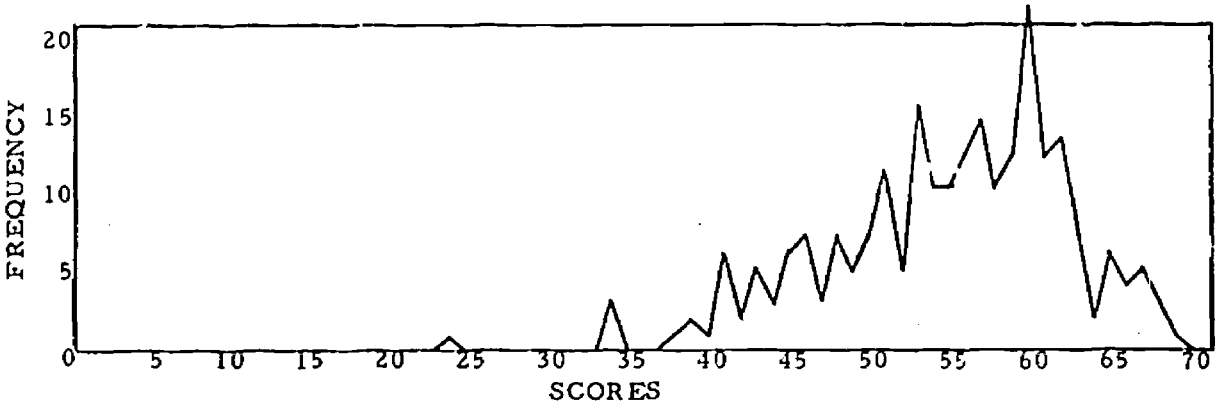
Grade One
Total=10011
N=235
Mean=42.60

Grade Equivalent=2.55
Percentile=76



Grade Two
Total=11727
N=253
Mean=46.35

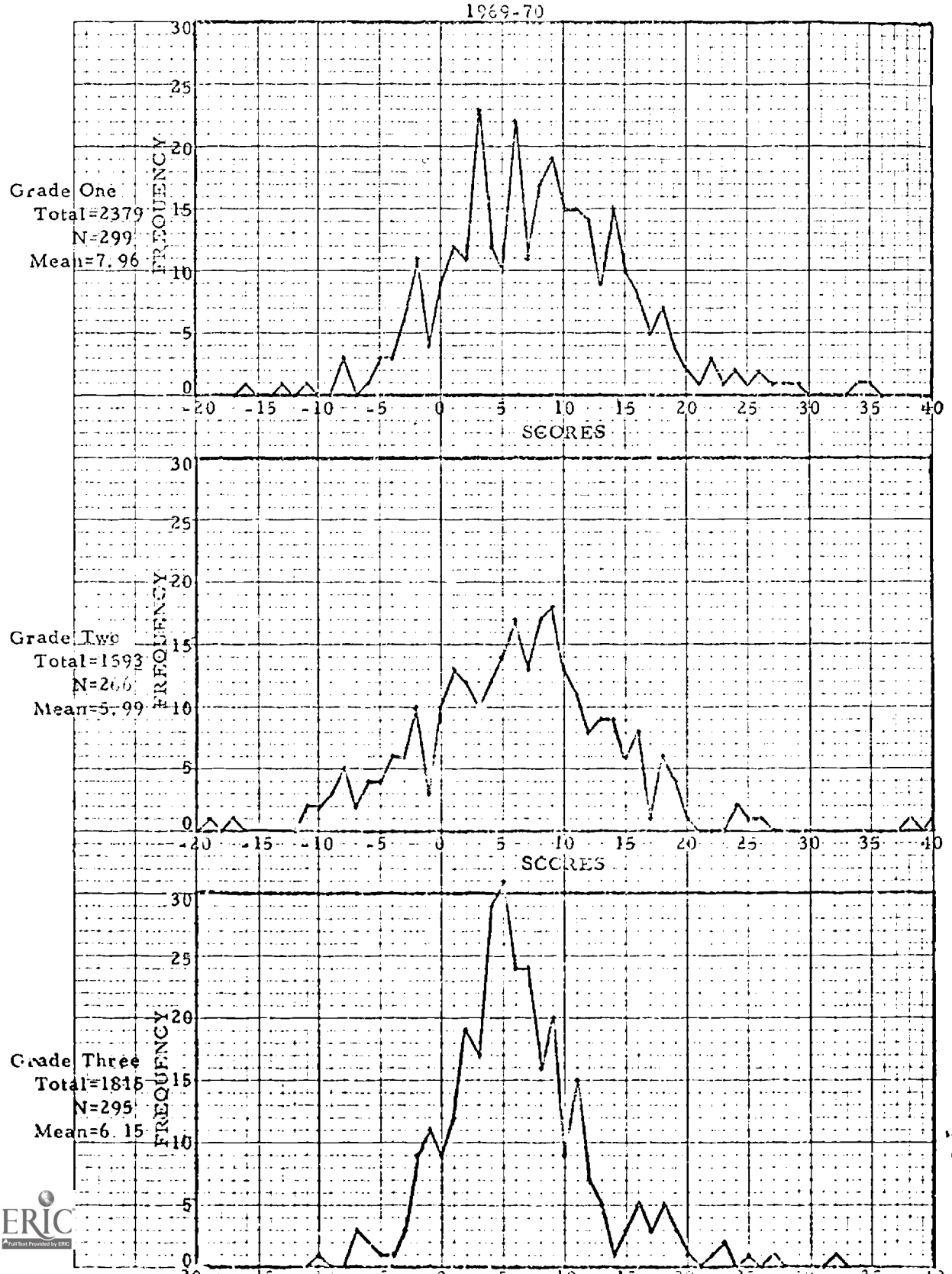
Grade Equivalent=3.0
Percentile=58



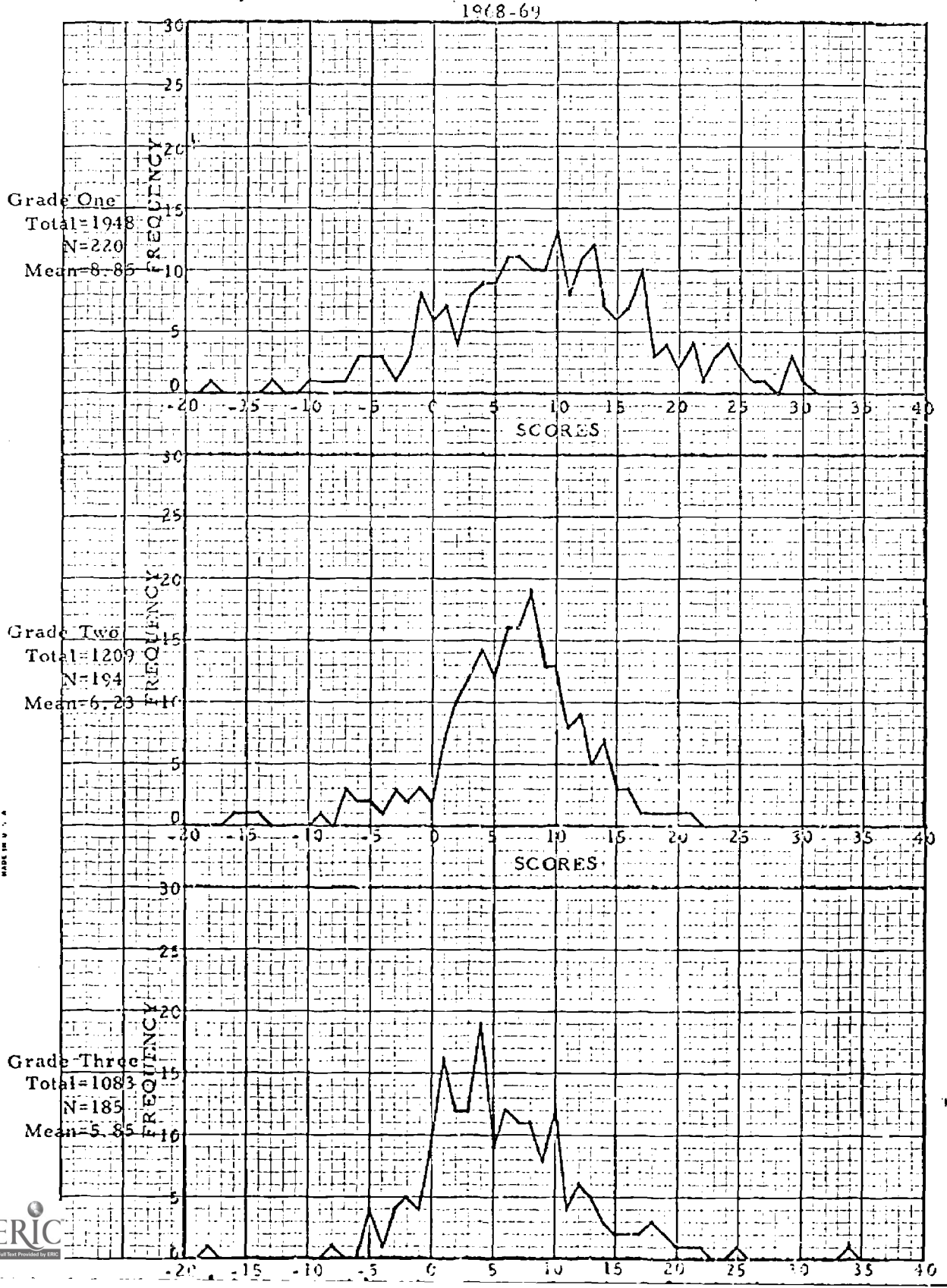
Grade Three
Total=12129
N=226
Mean=53.67

Grade Equivalent=4.05
Percentile=60

Houghton Mifflin Primary Social Studies Test--Difference
1969-70

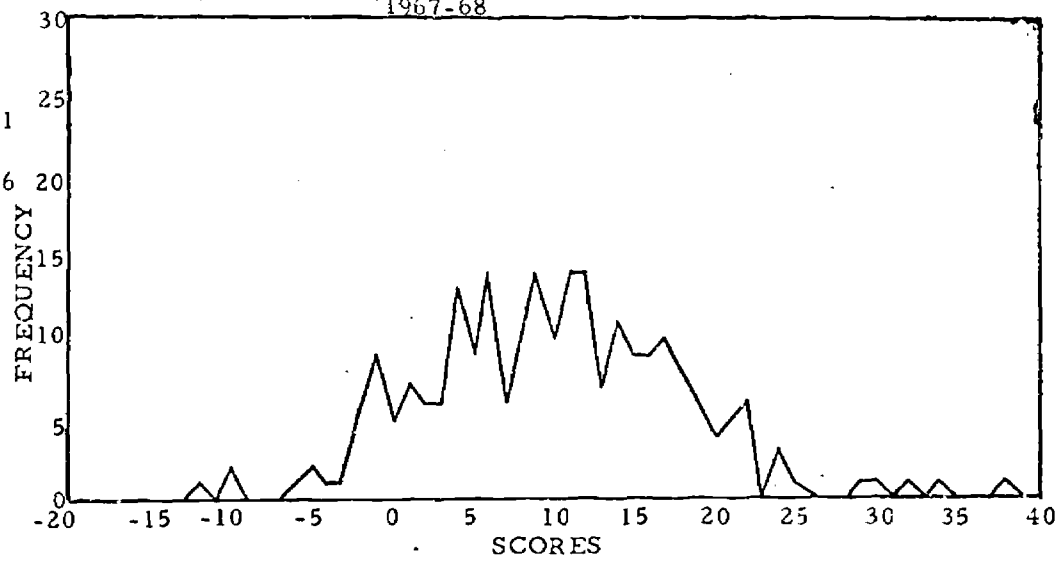


Houghton Mifflin Primary Social Studies Test--Difference
1968-69



Houghton Mifflin Primary Social Studies Test--Difference
1967-68

Grade One
Total=2341
N=235
Mean=9.96



Grade Two
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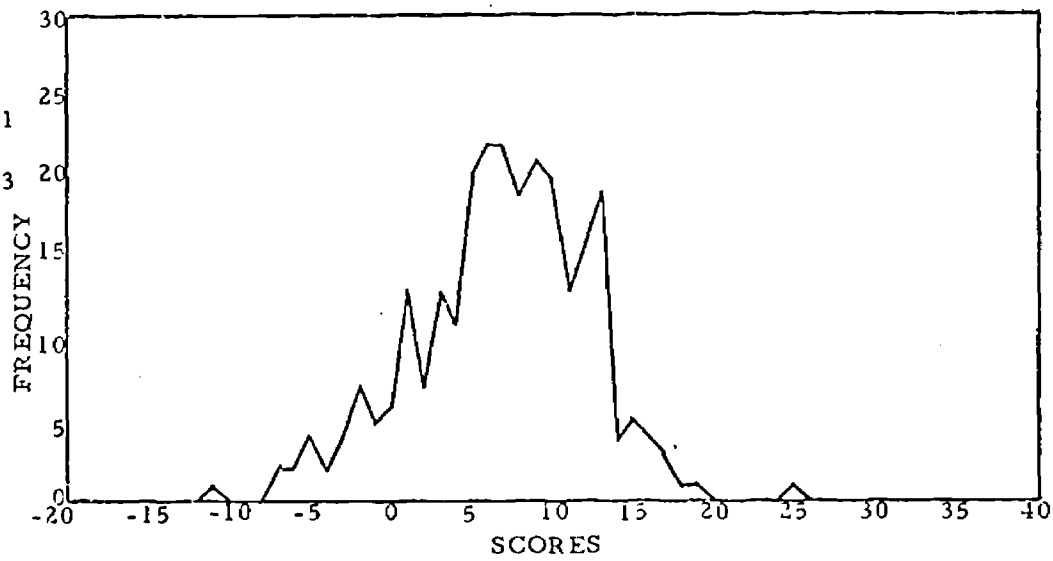
N=253
Mean=6.53



Grade Three
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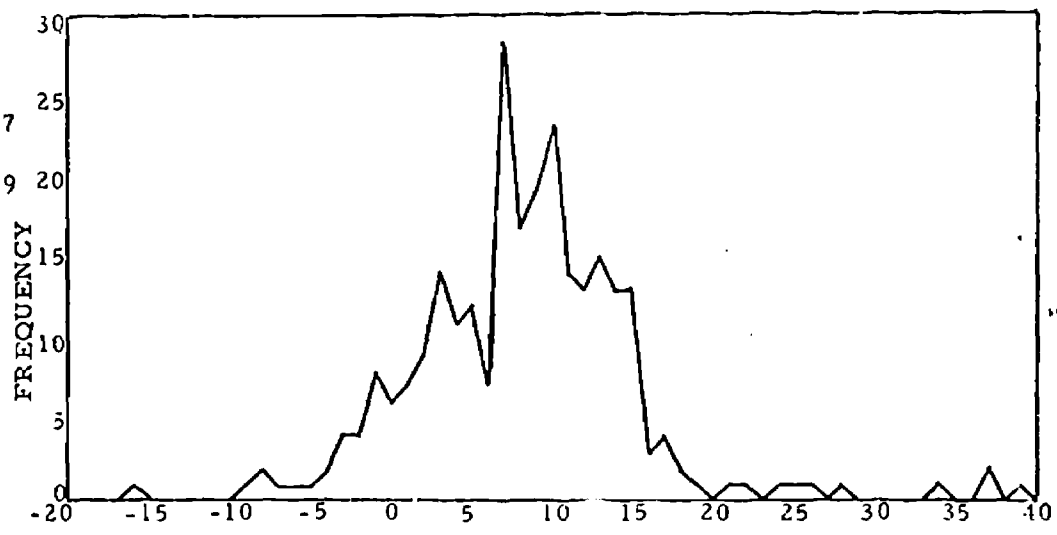
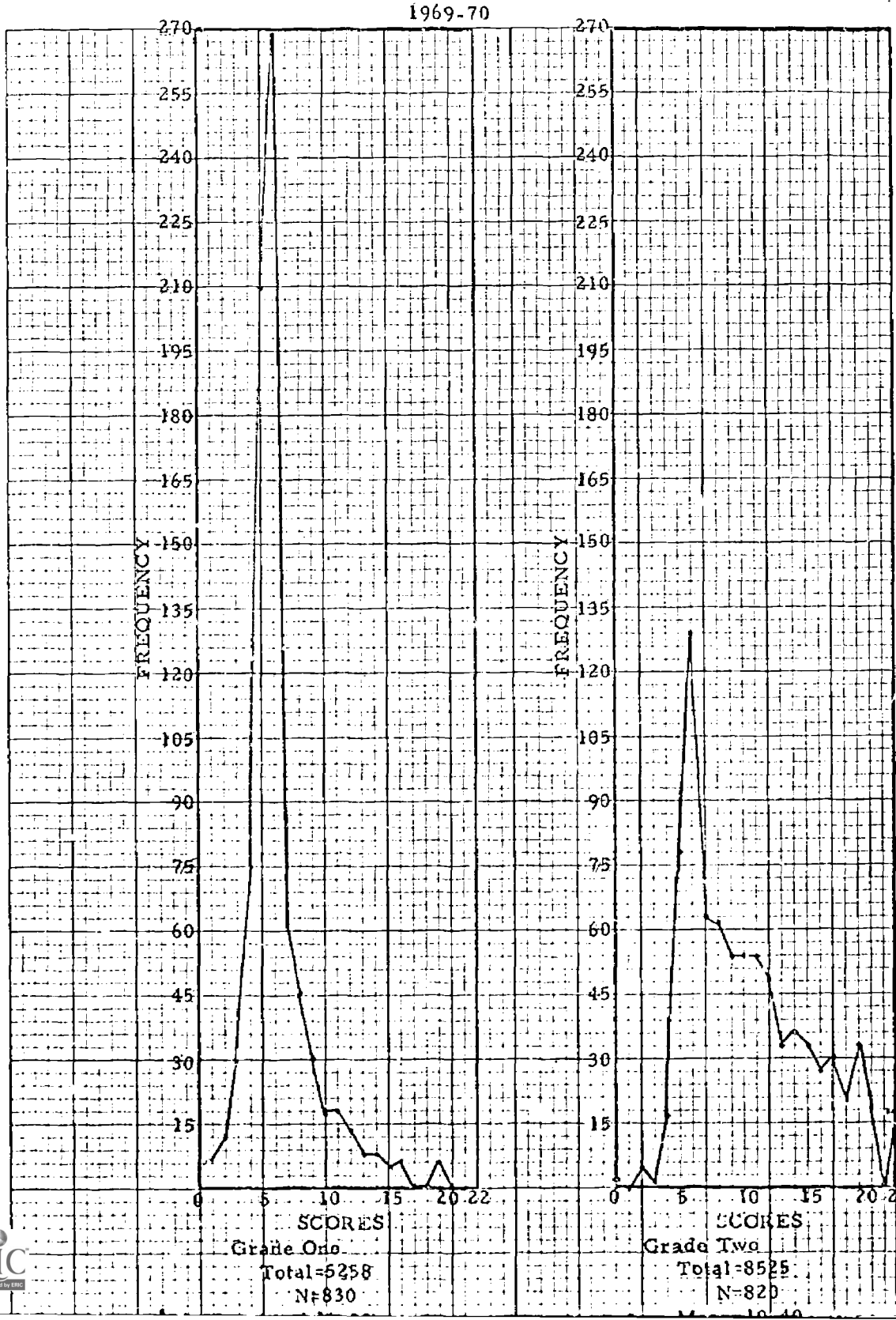
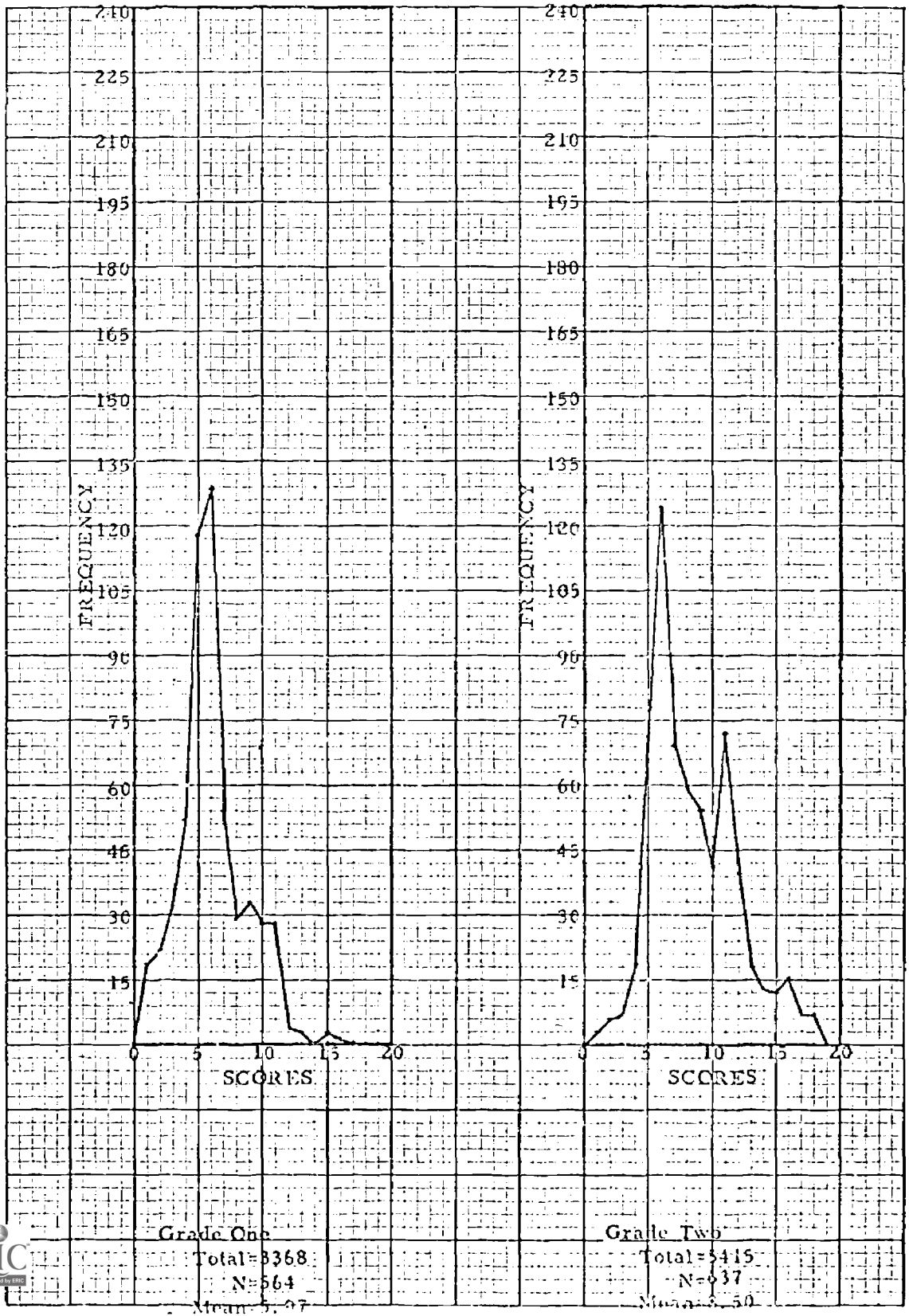
N=226
Mean=7.69



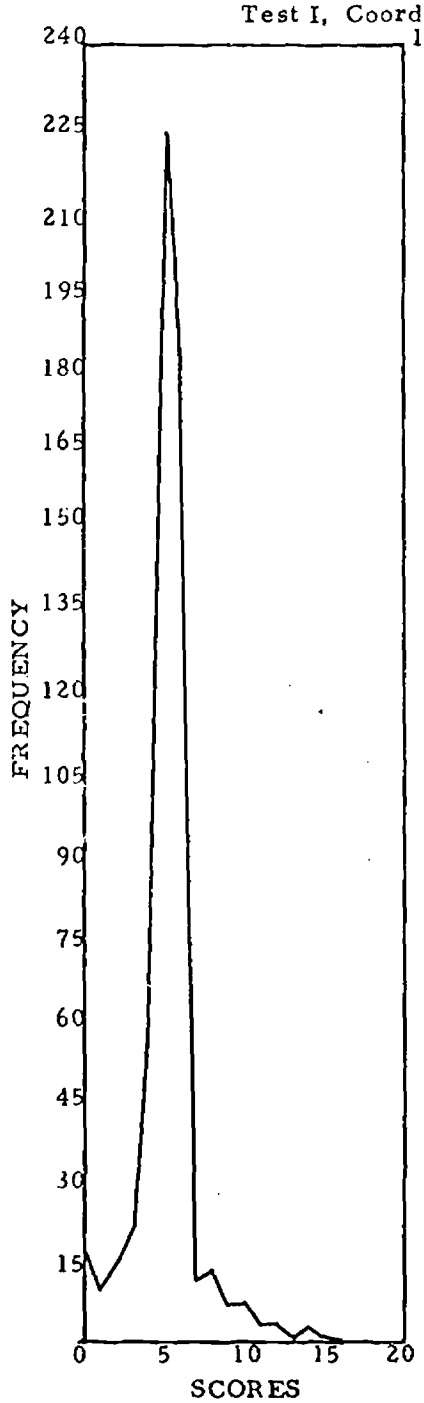
Test I, Coordinates--Pretest
1969-70



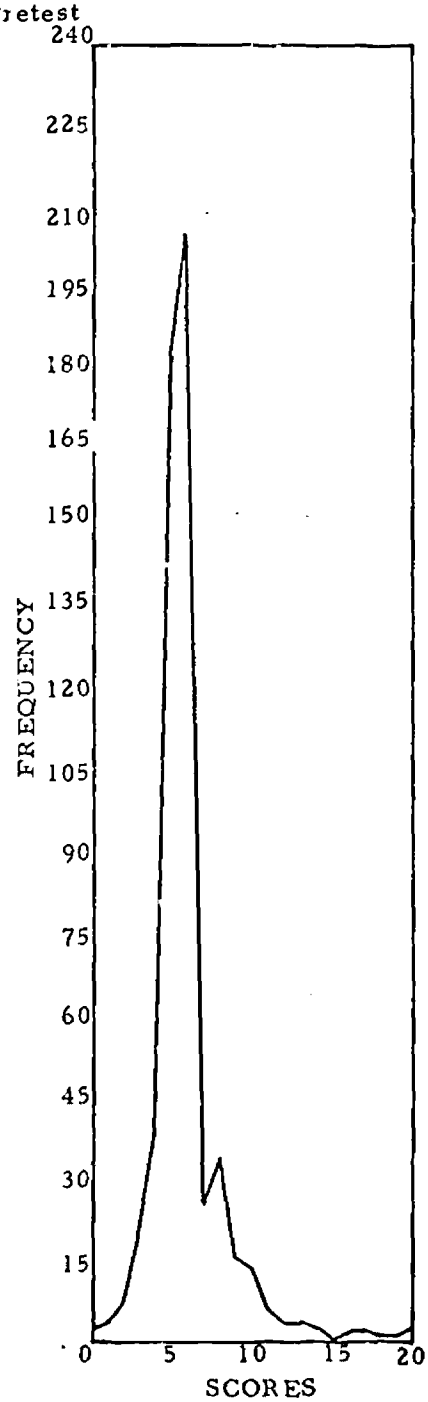
Test I, Coordinates--Pretest
1968-69



Test I, Coordinates--Pretest 1967-68



Grade One
Total=3024
N=576
Mean=5.25



Grade Two
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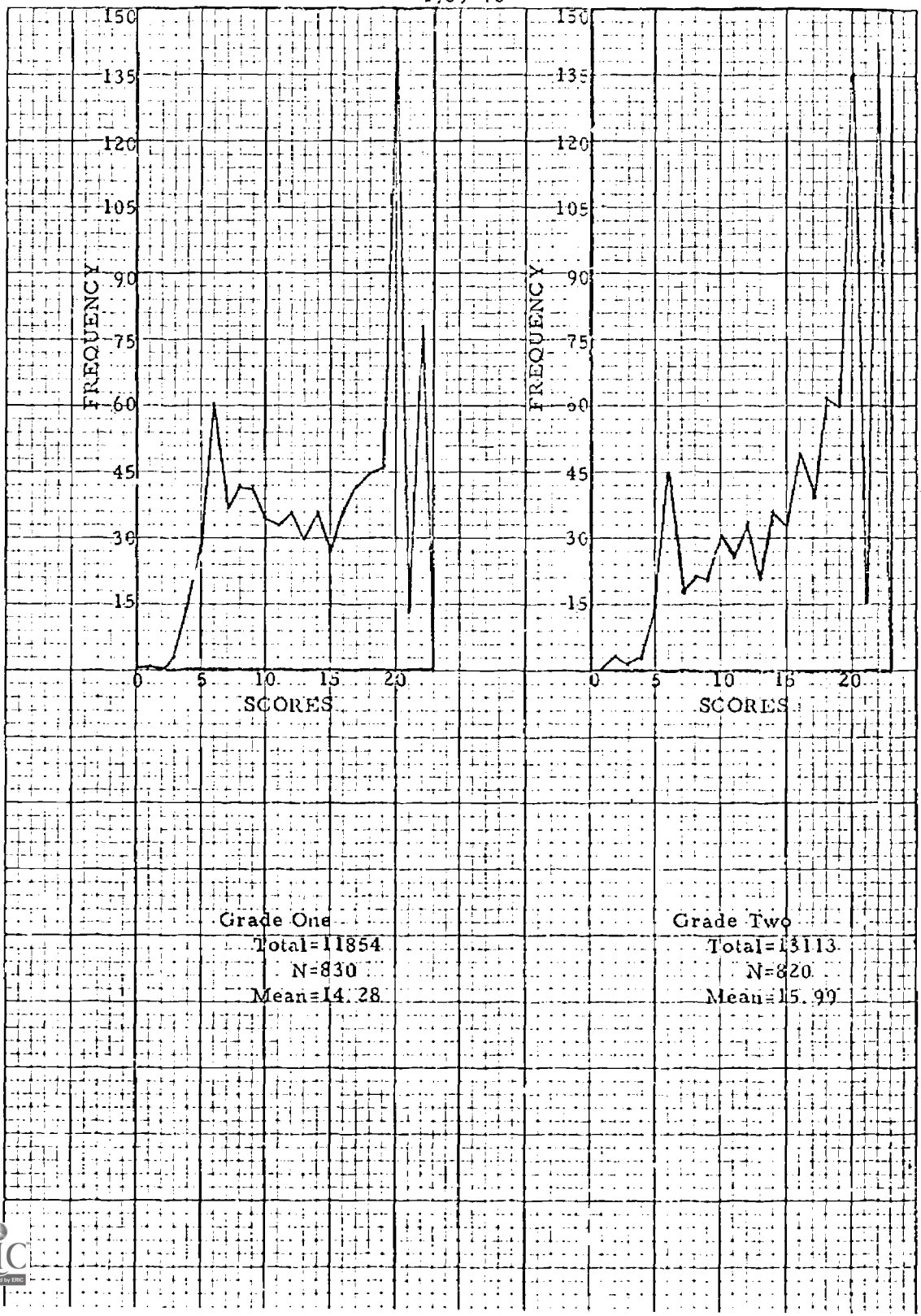
N=576
Mean=6.04

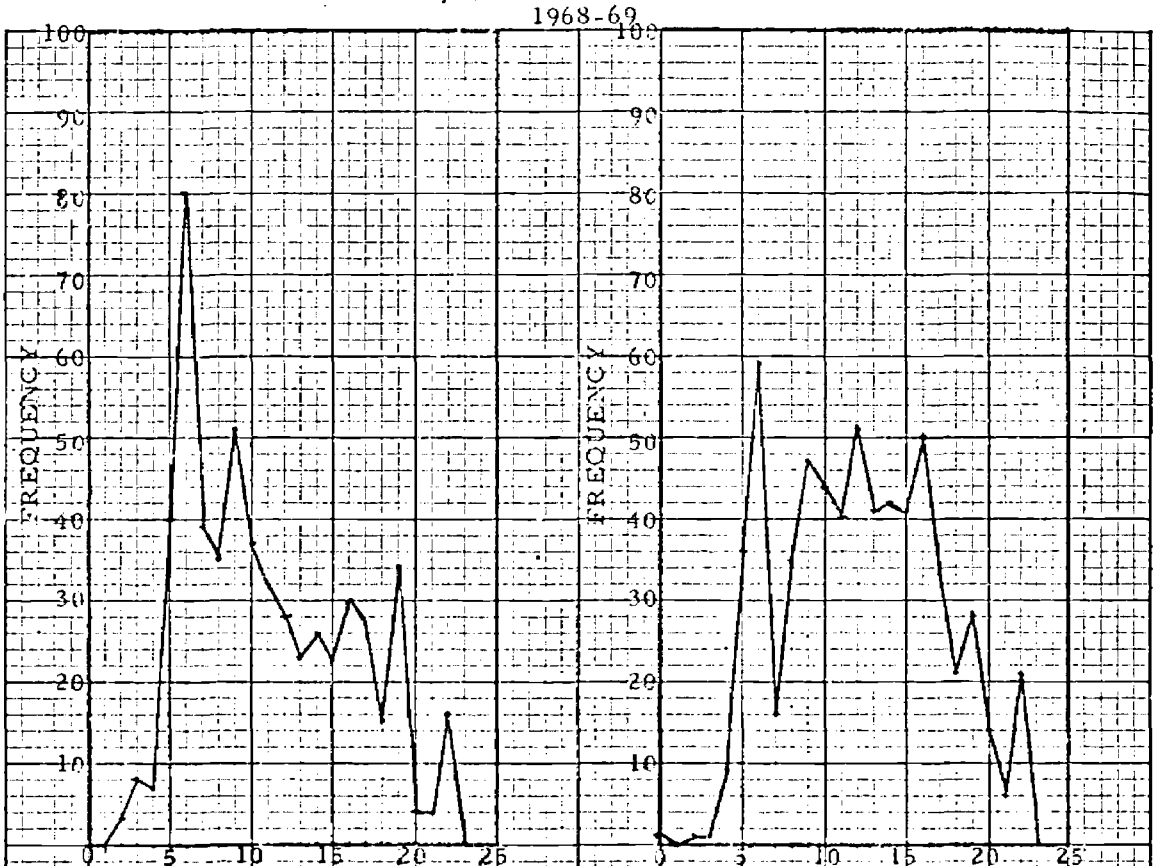
Test I, Coordinates--Post Test
1969-70



Grade One
Total=11854
N=830
Mean=14.28

Grade Two
Total=13113
N=820
Mean=15.99

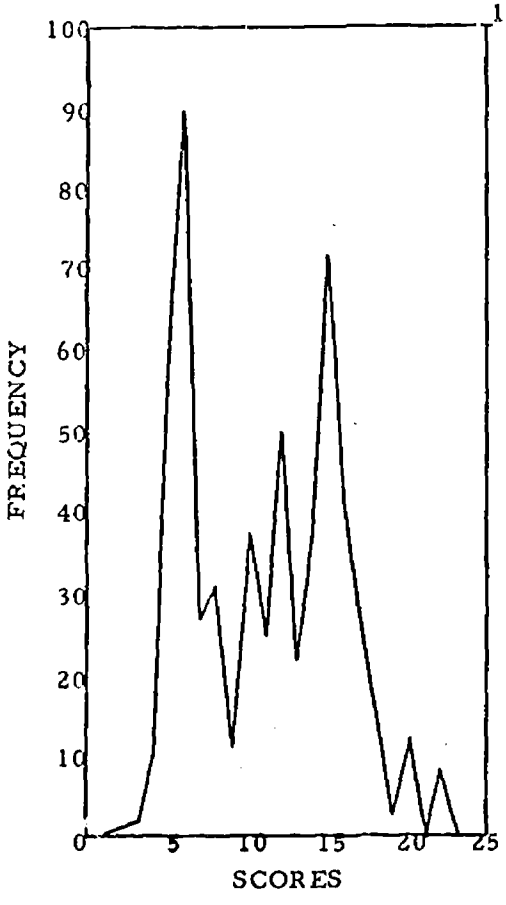
Test I, Coordinates--Post Test
1968-69



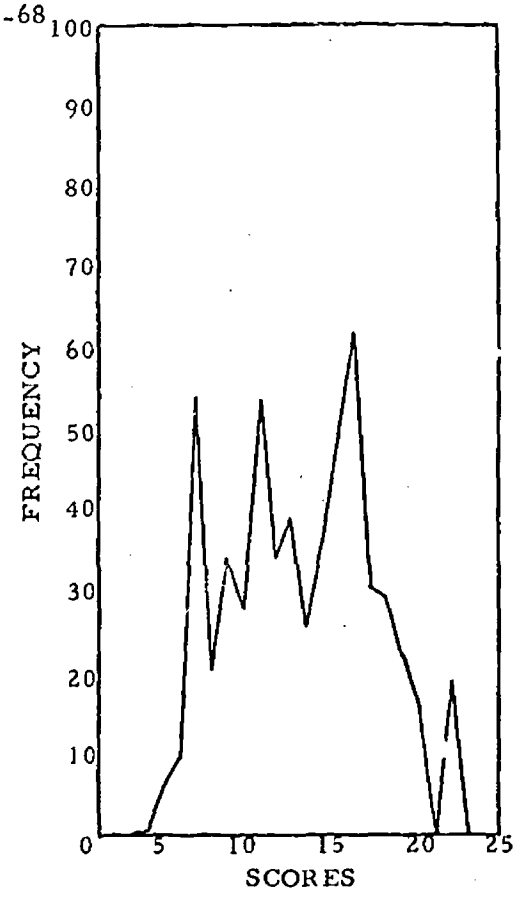
Grade One
Total=6187
N=564
Mean=10.97

Grade Two
Total=7757
N=637
Mean=12.18

Test I, Coordinates--Post Test
1967-68

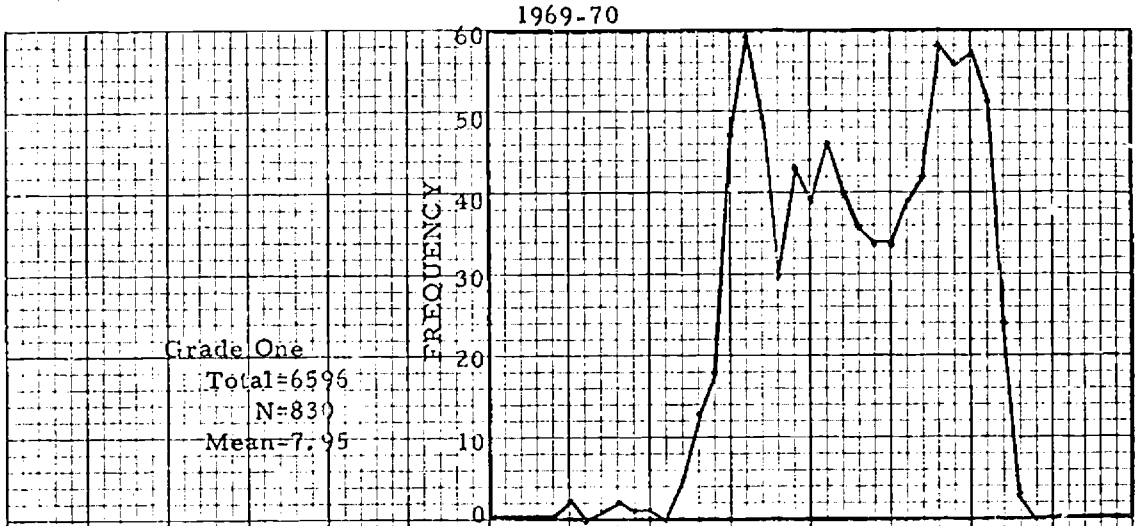


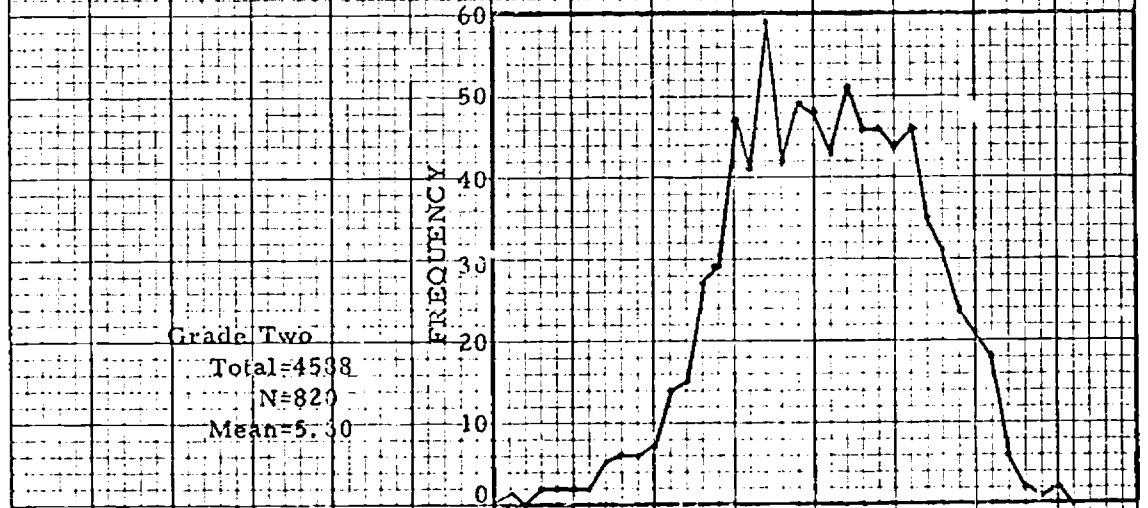
Grade One
Total=6399
N=576
Mean=11.11



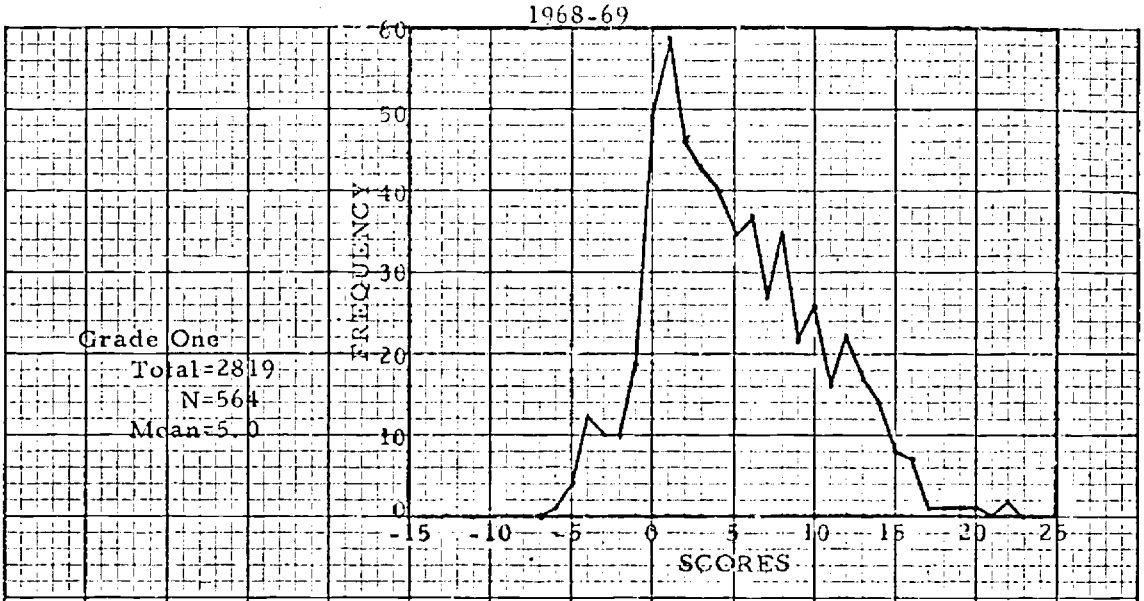
Grade Two
Total=7312
N=576
Mean=12.69

Test I,- Coordinates--Difference
1969-70

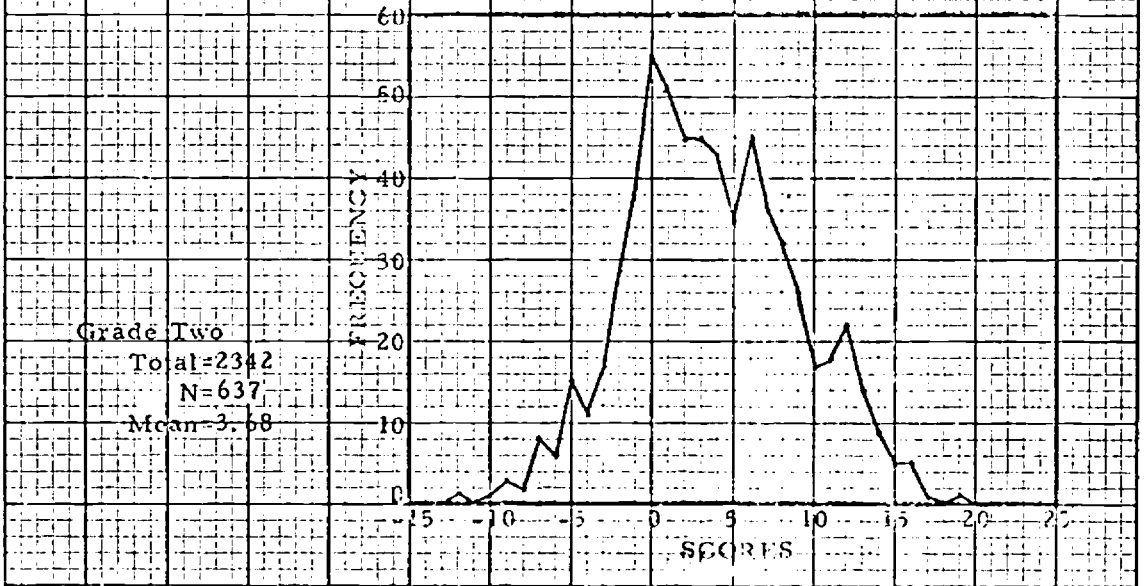




Test I, Coordinates--Difference
1968-69



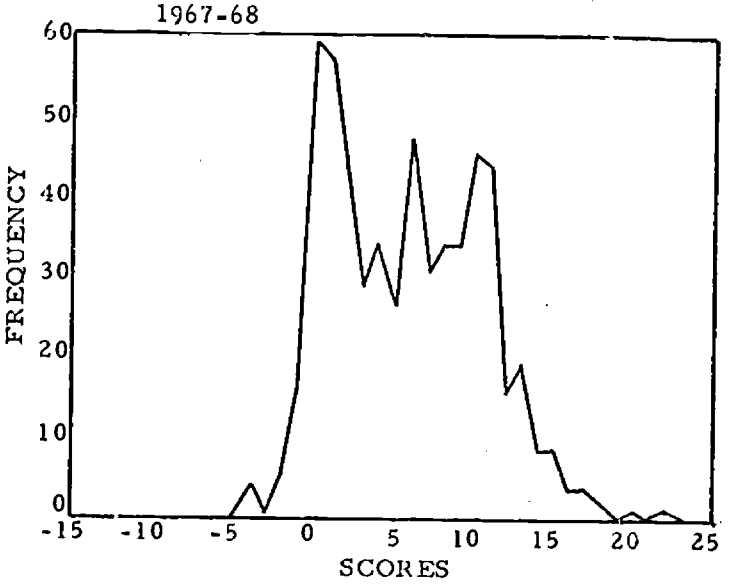
Grade One
Total=2819
N=564
Mean=5.0



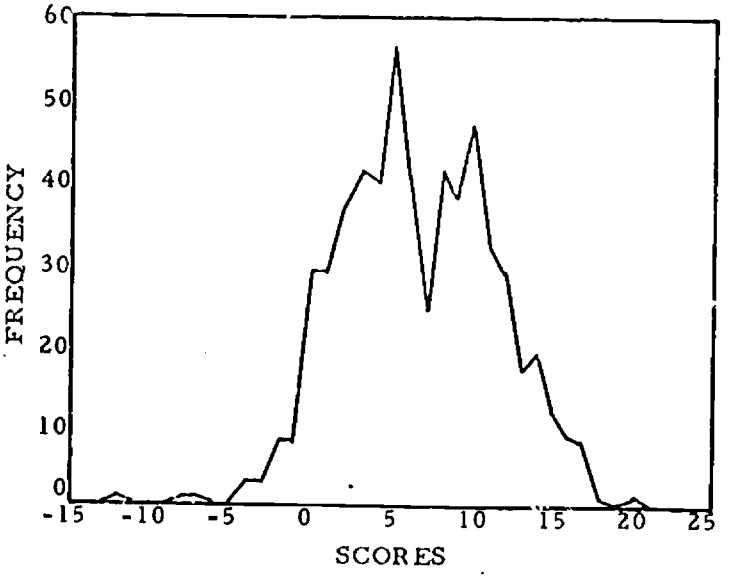
Grade Two
Total=2342
N=637
Mean=3.68

Test I, Coordinates--Difference
1967-68

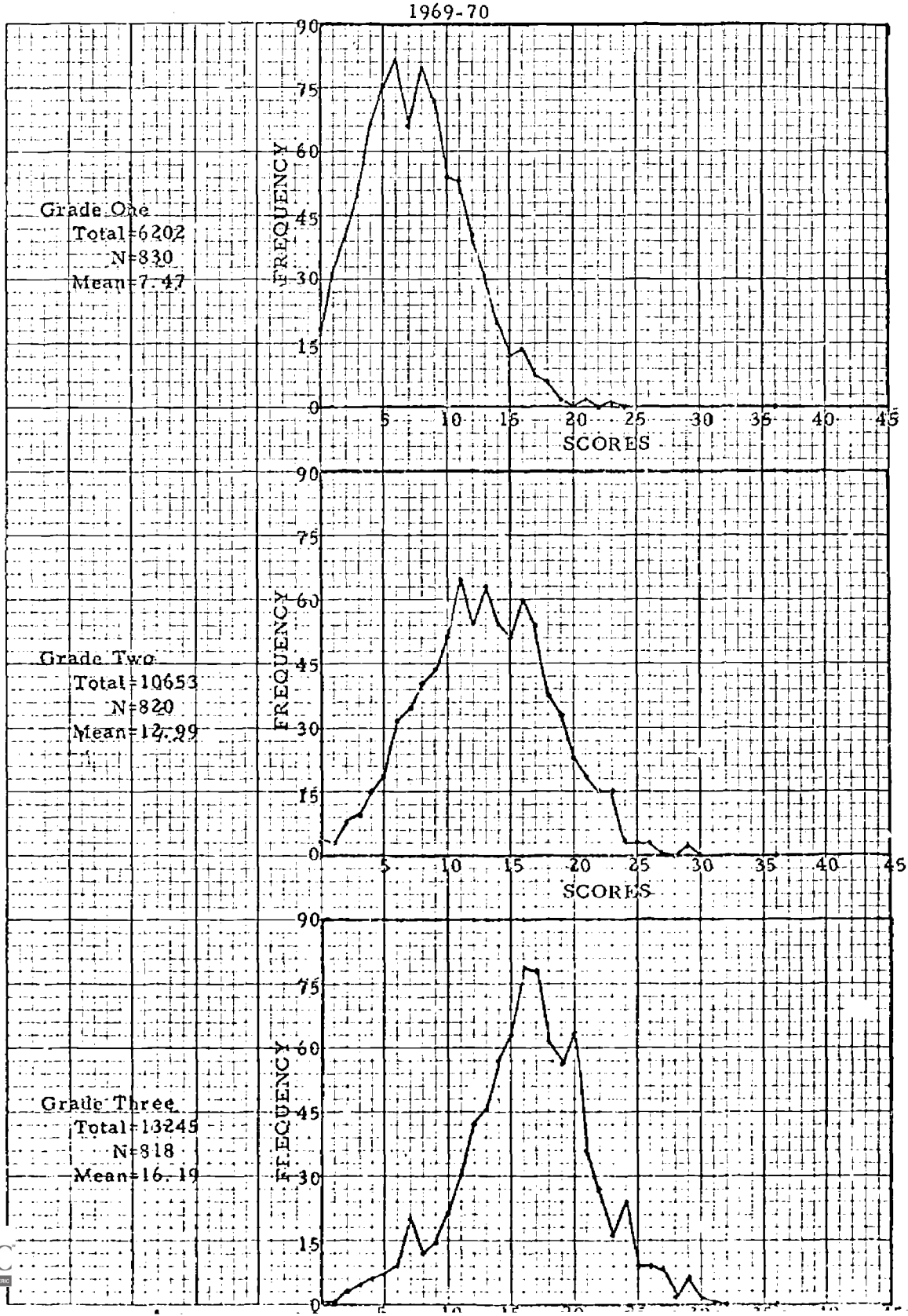
Grade One
Total=3375
N=576
Mean=5.86



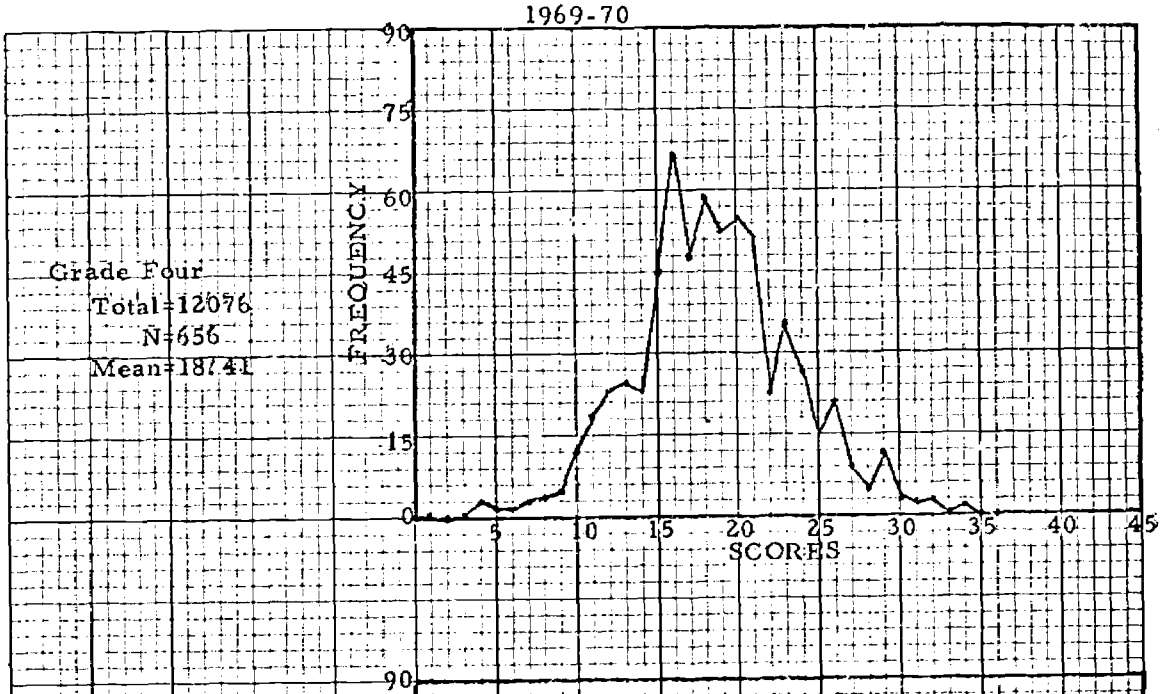
Grade Two
Total=3833
N=576
Mean=6.65

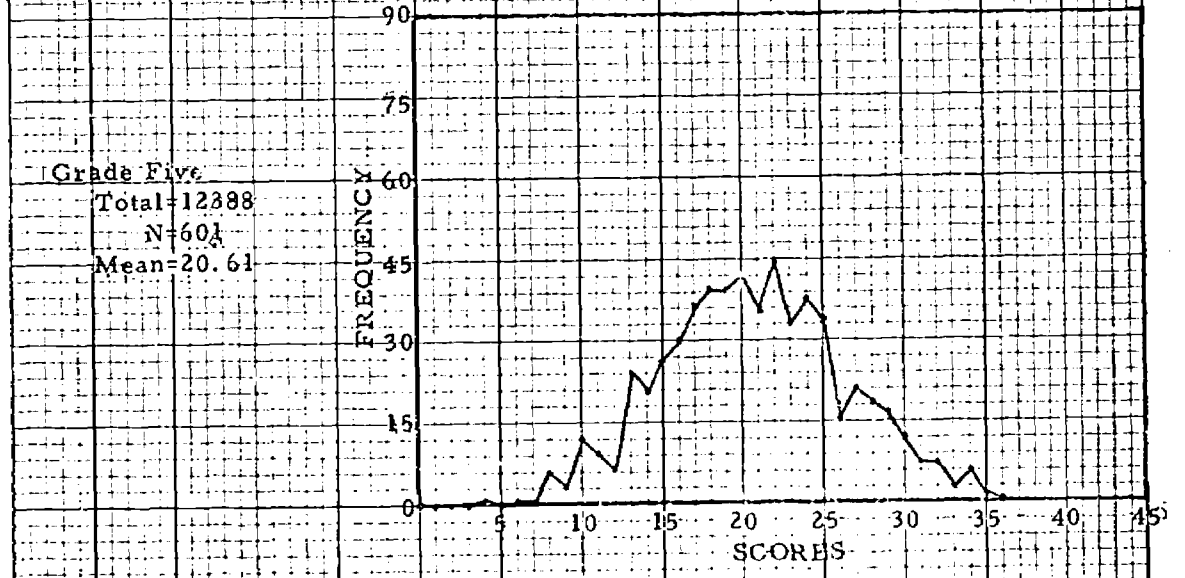


Test II, Aerial Photograph Analysis--Pretest
1969-70

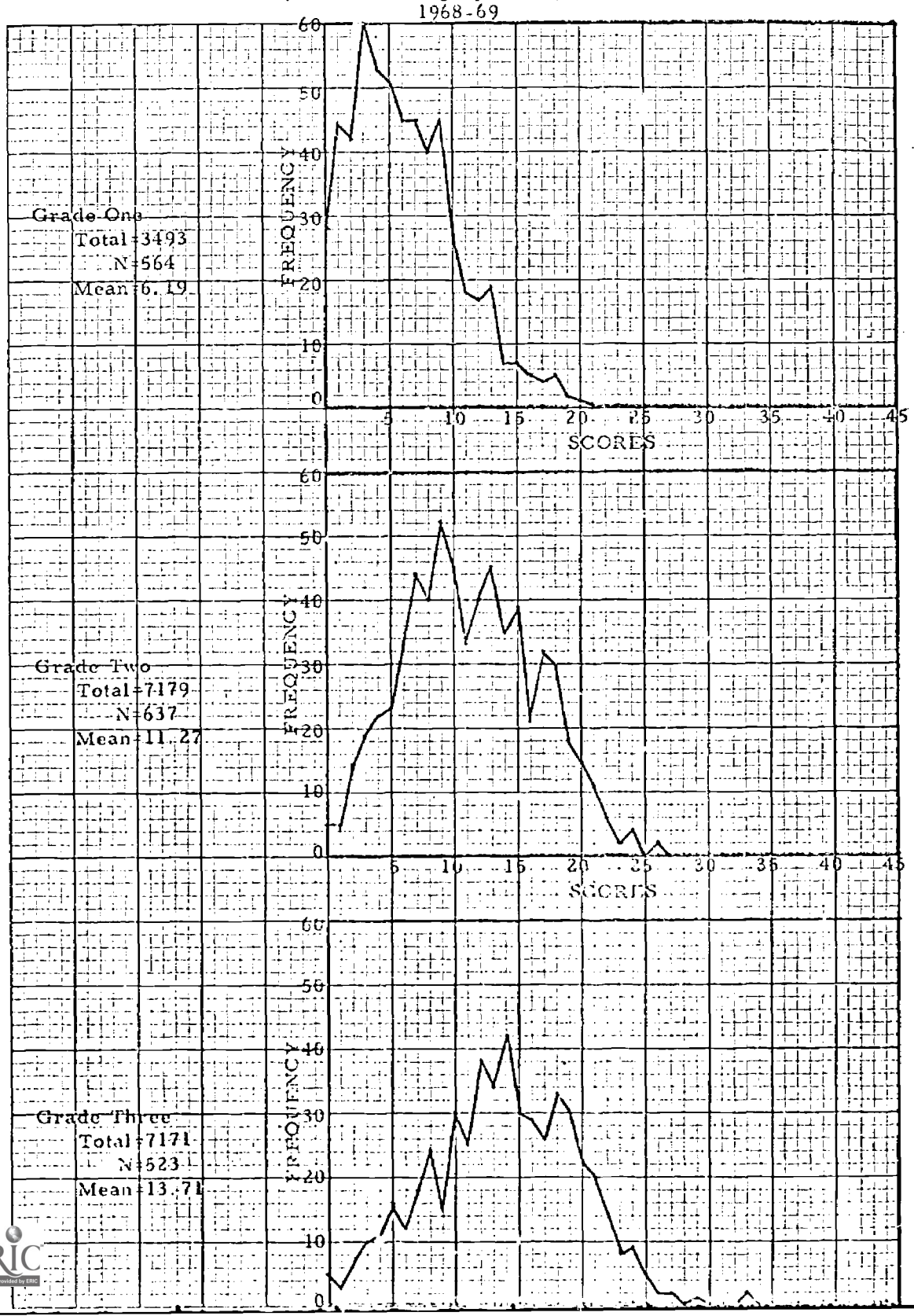


Test II, Aerial Photograph Analysis--Pretest
1969-70

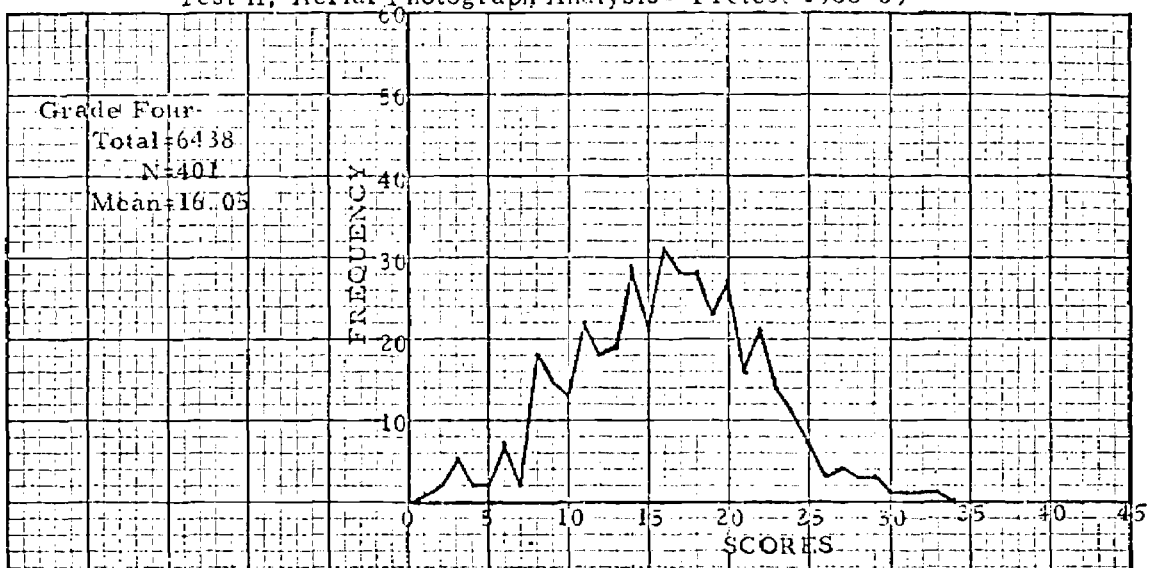




Test II, Aerial Photograph Analysis--Pretest
1968-69

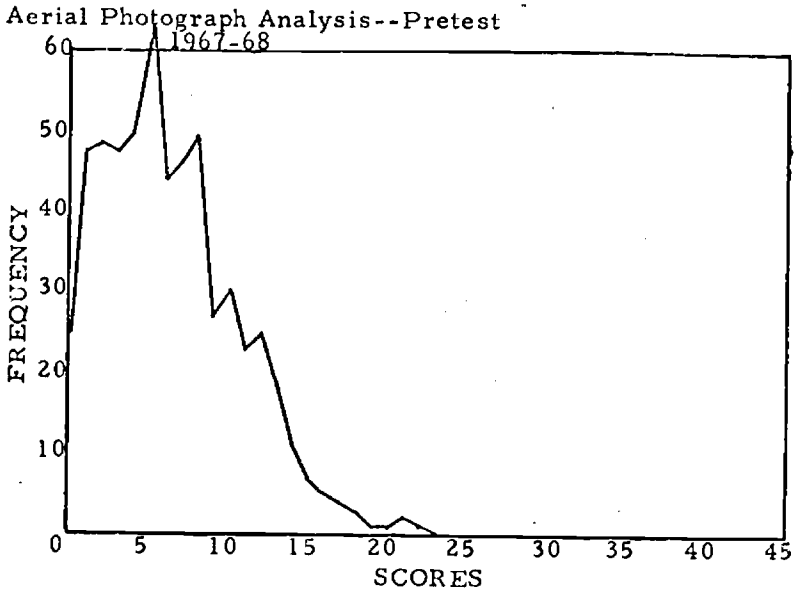


Test II, Aerial Photograph Analysis--Pretest 1968-69

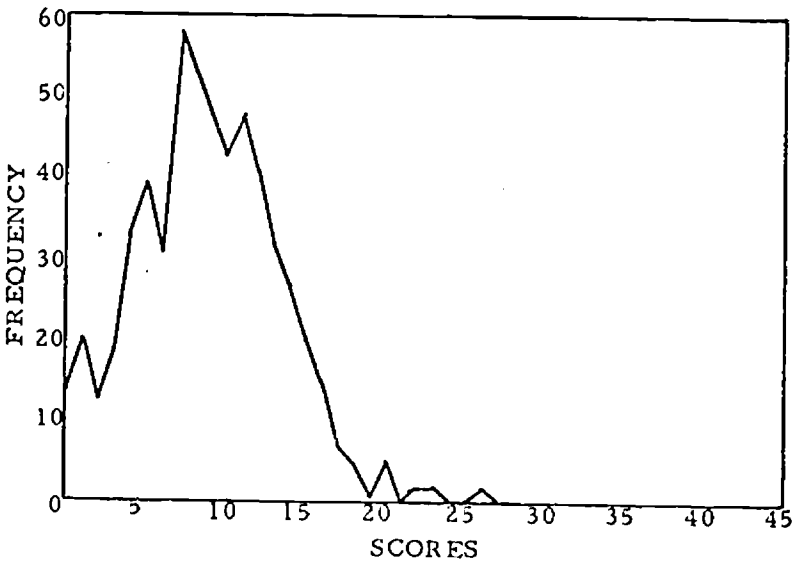


Test II, Aerial Photograph Analysis--Pretest 1967-68

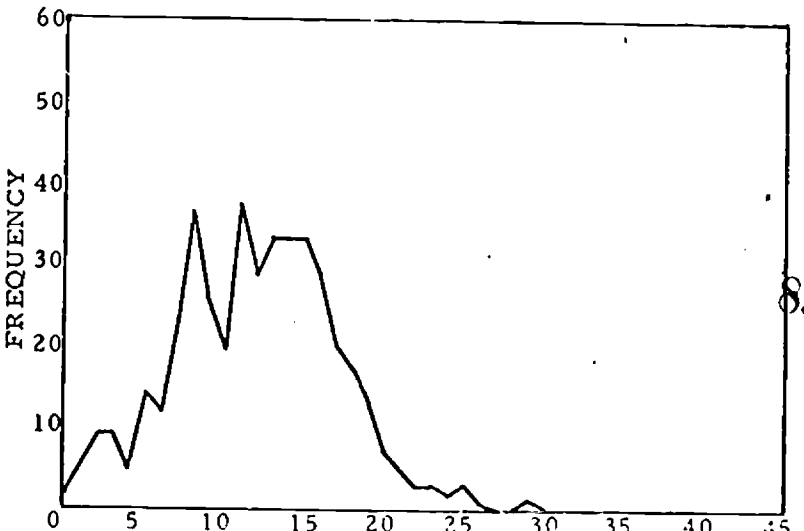
Grade One
Total=3667
N=576
Mean=6.37



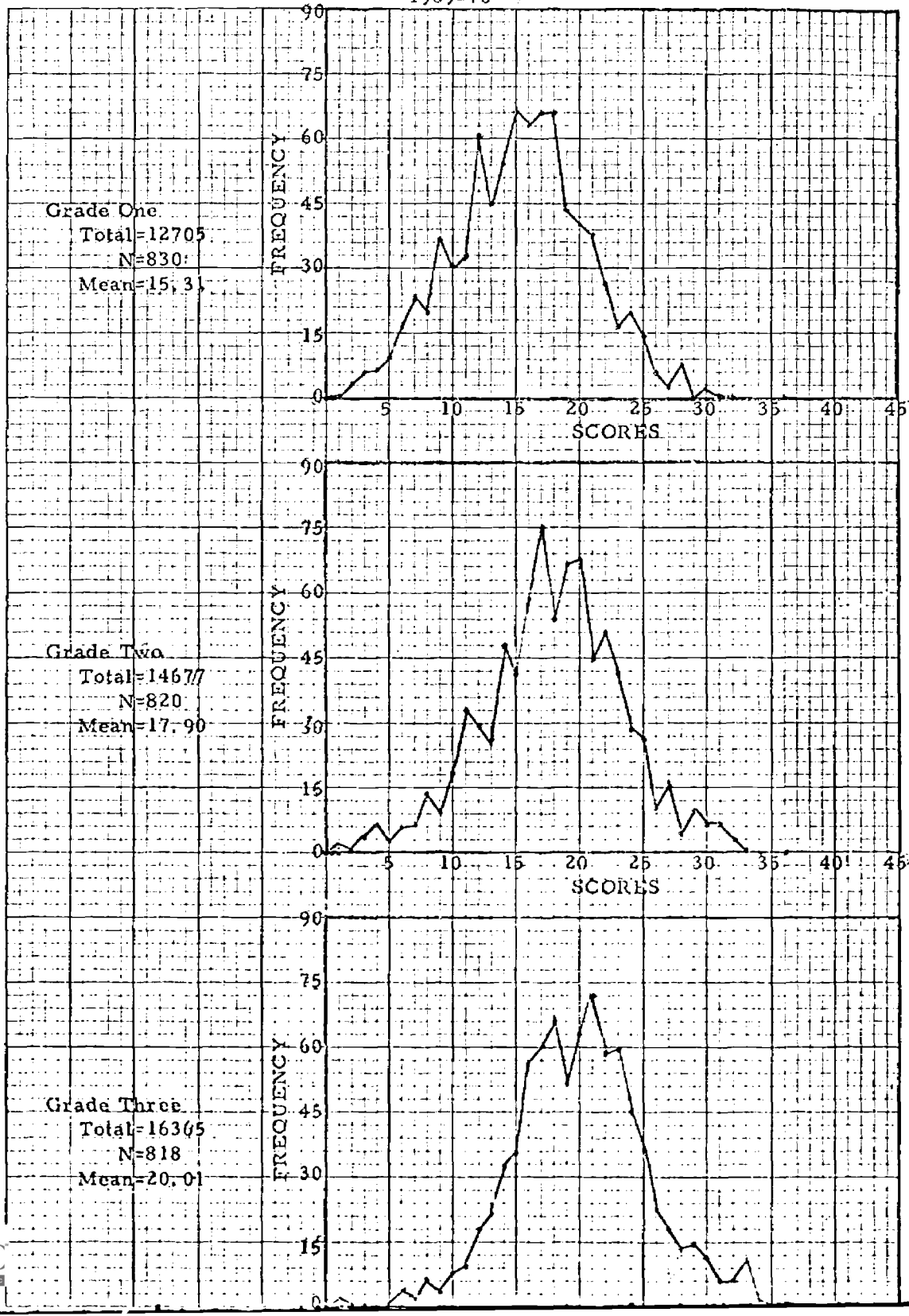
Grade Two
Total=5095
N=576
Mean=8.85



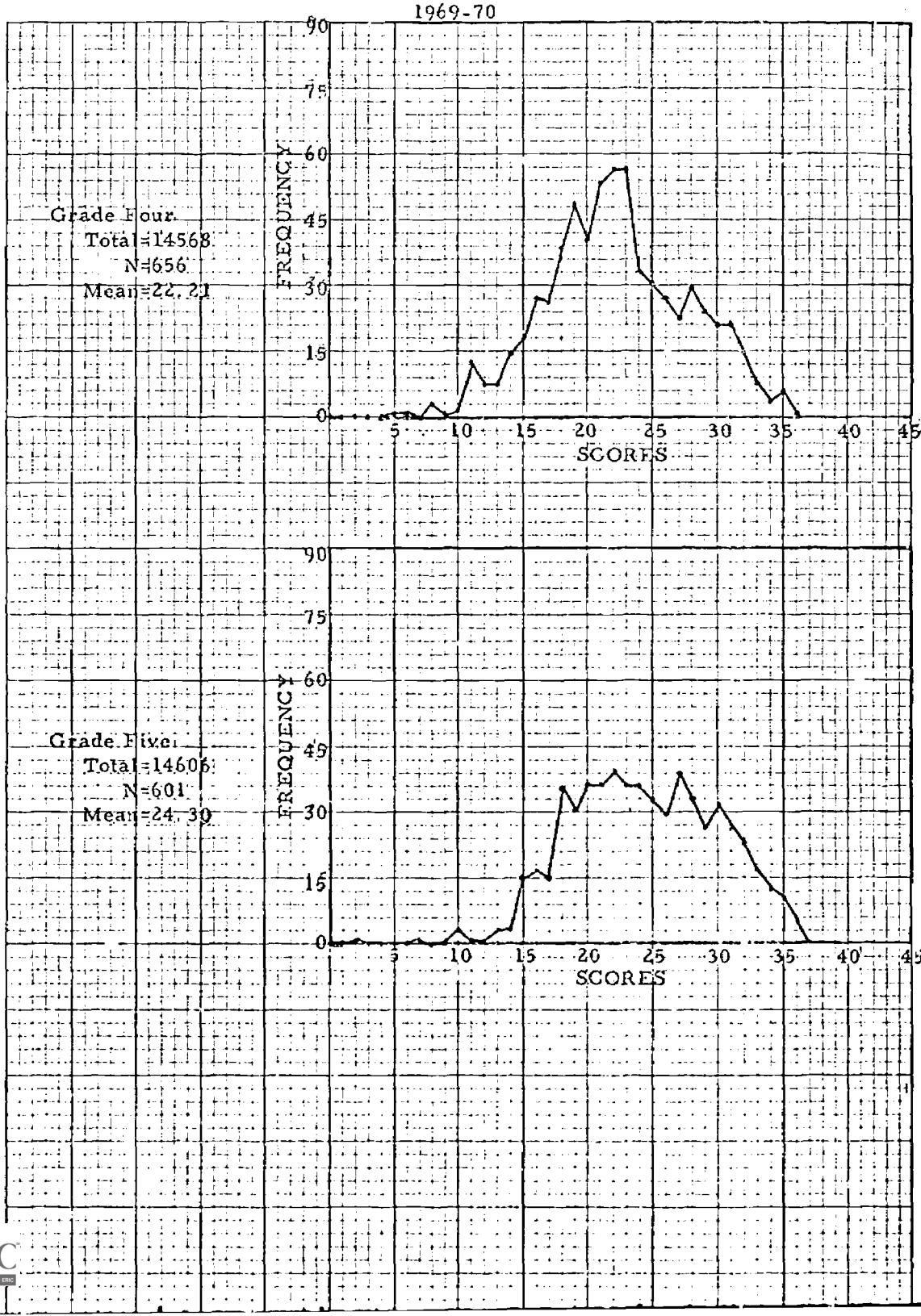
Grade Three
Total=5146
N=424
Mean=12.14



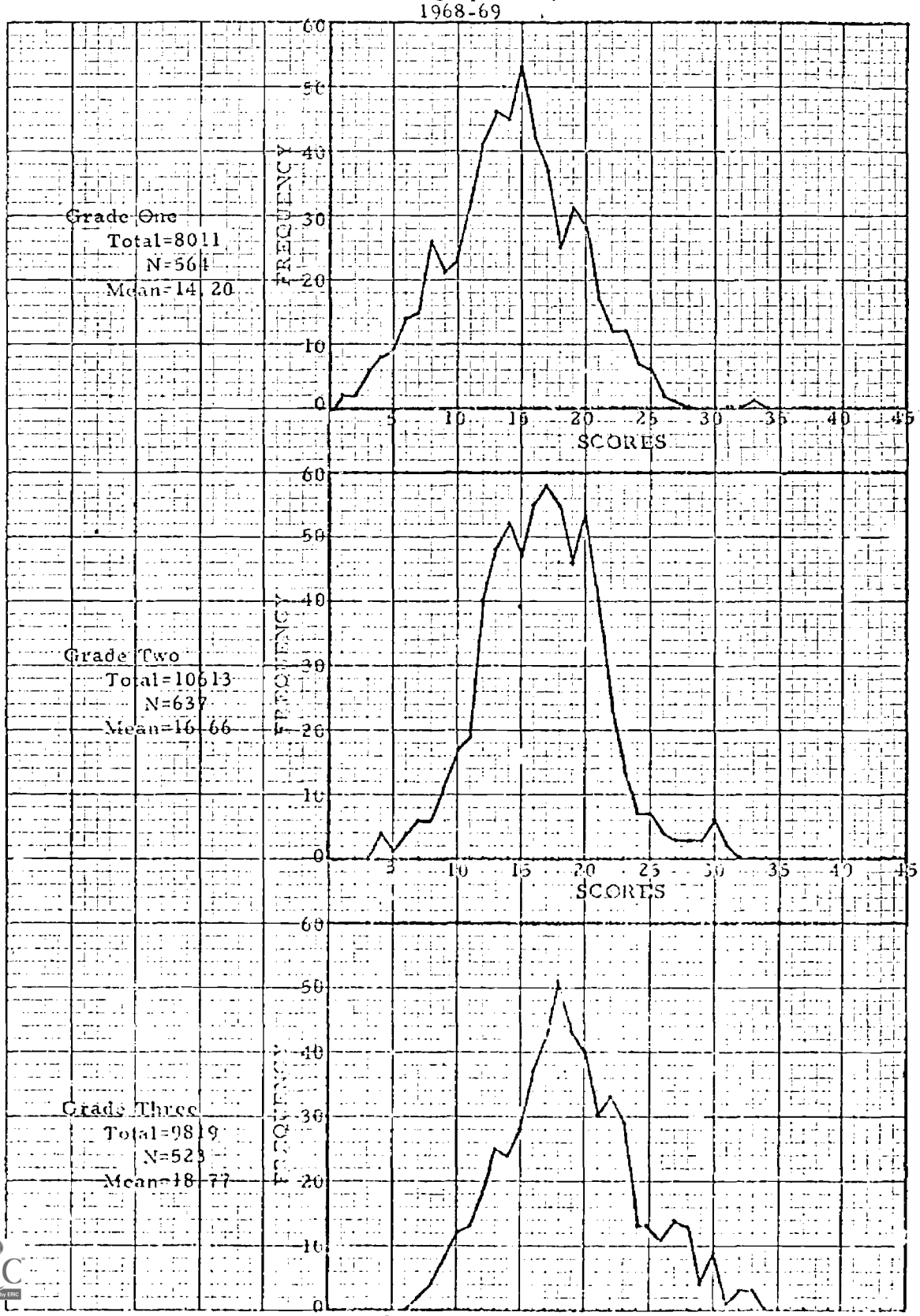
Test II, Aerial Photograph Analysis--Post Test
1969-70



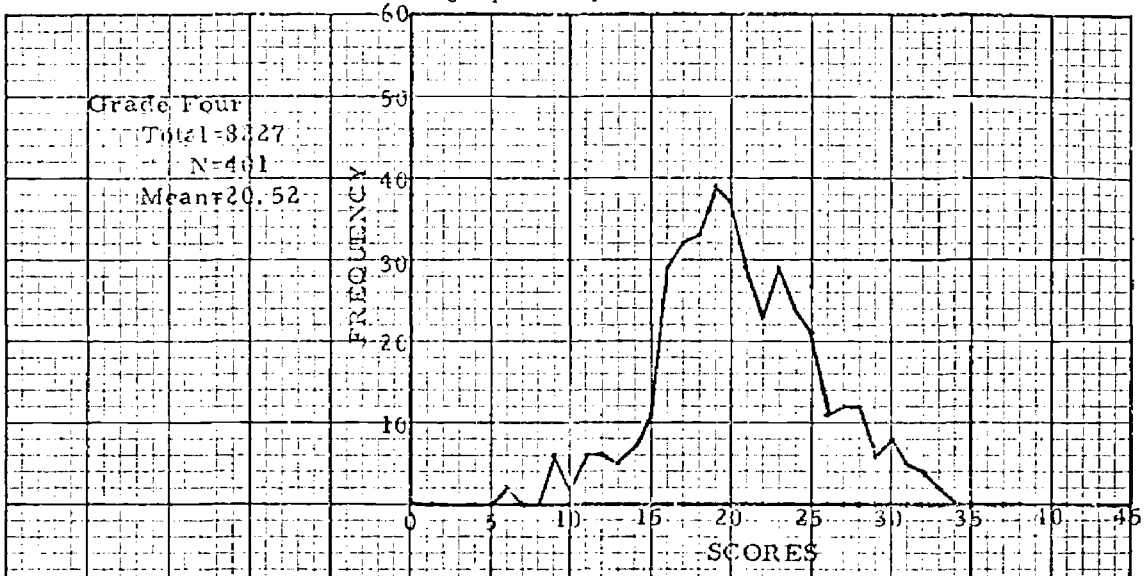
Test II, Aerial Photograph Analysis--Post Test
1969-70



Test II, Aerial Photograph Analysis--Post Test
1968-69

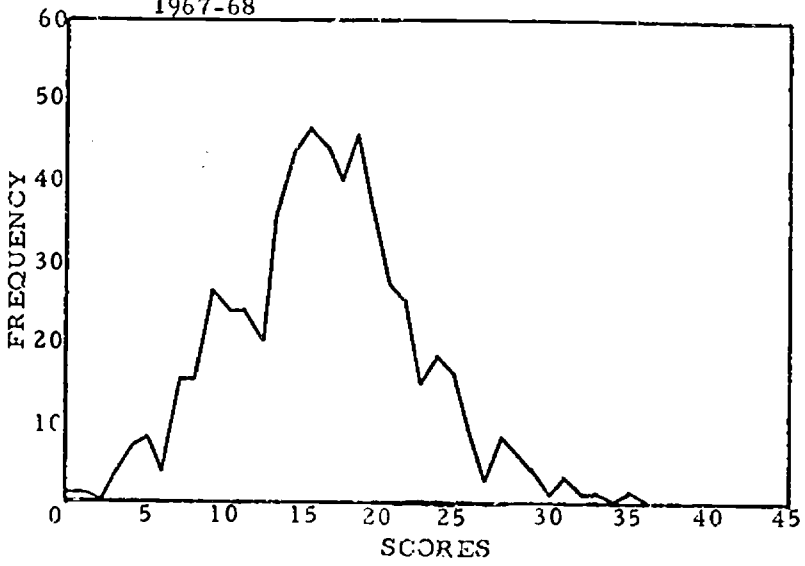


Test II, Aerial Photograph Analysis--Post Test 1968-69

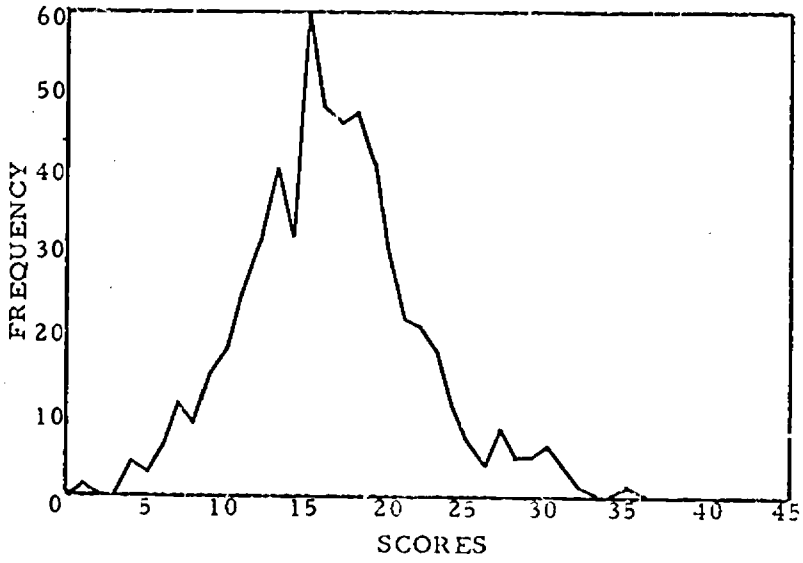


Test II, Aerial Photograph Analysis--Post Test
1967-68

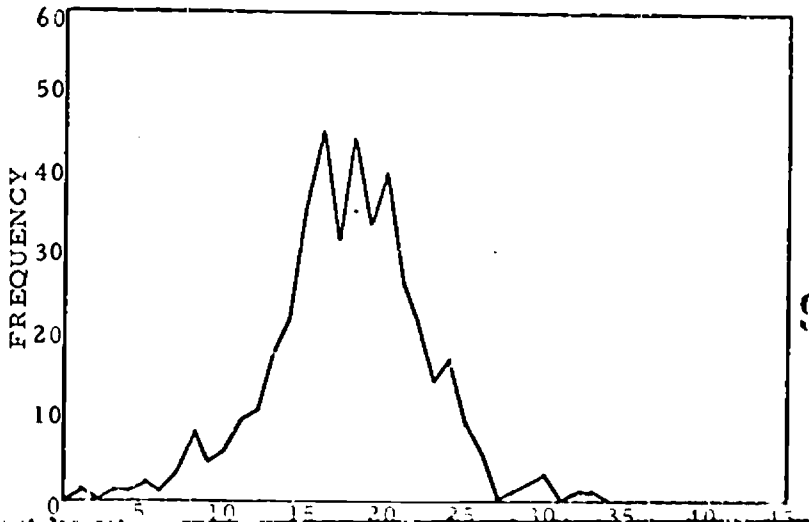
Grade One
Total=9152
N=576
Mean=15.89



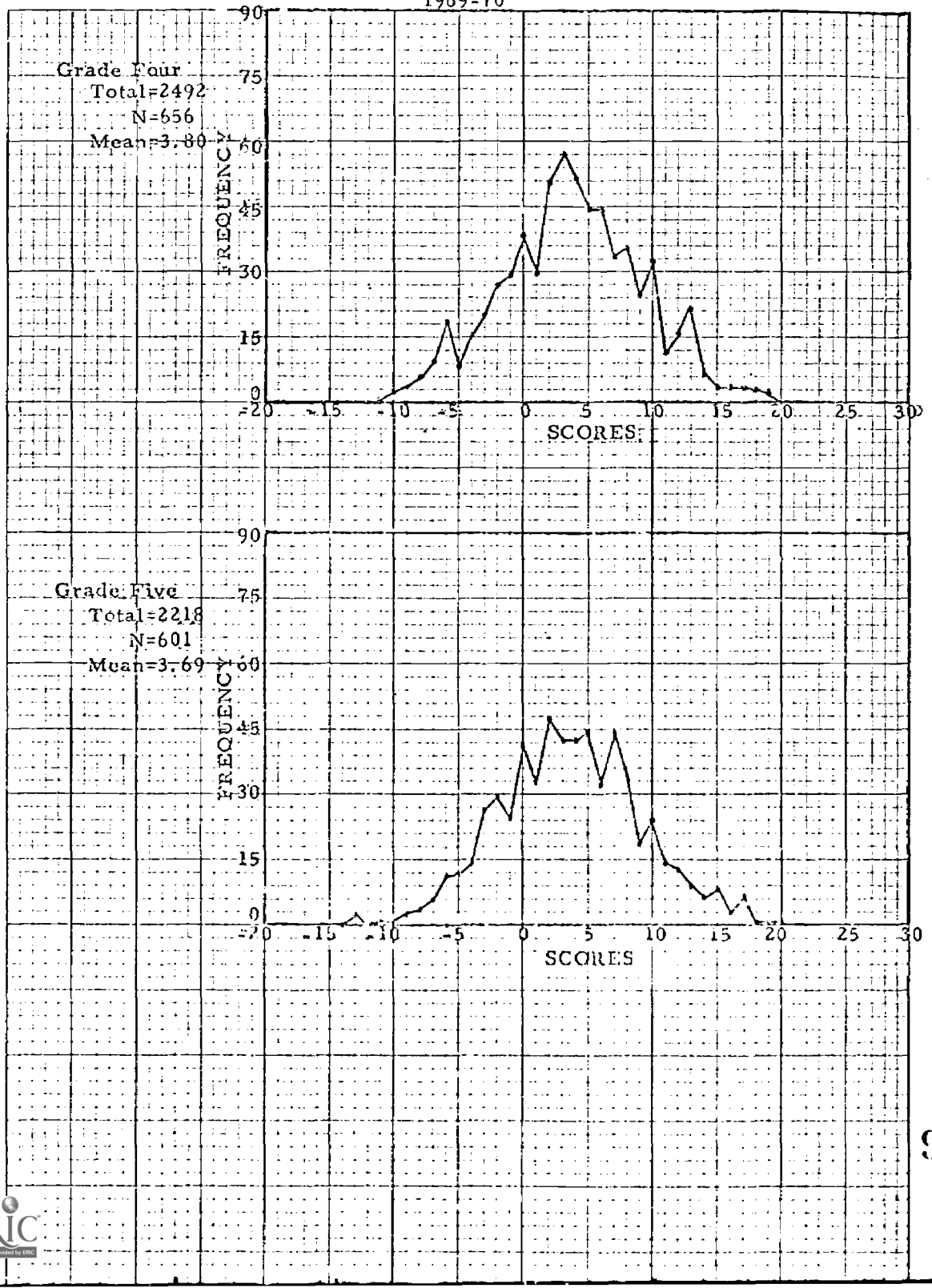
Grade Two
Total=9451
N=576
Mean=16.41



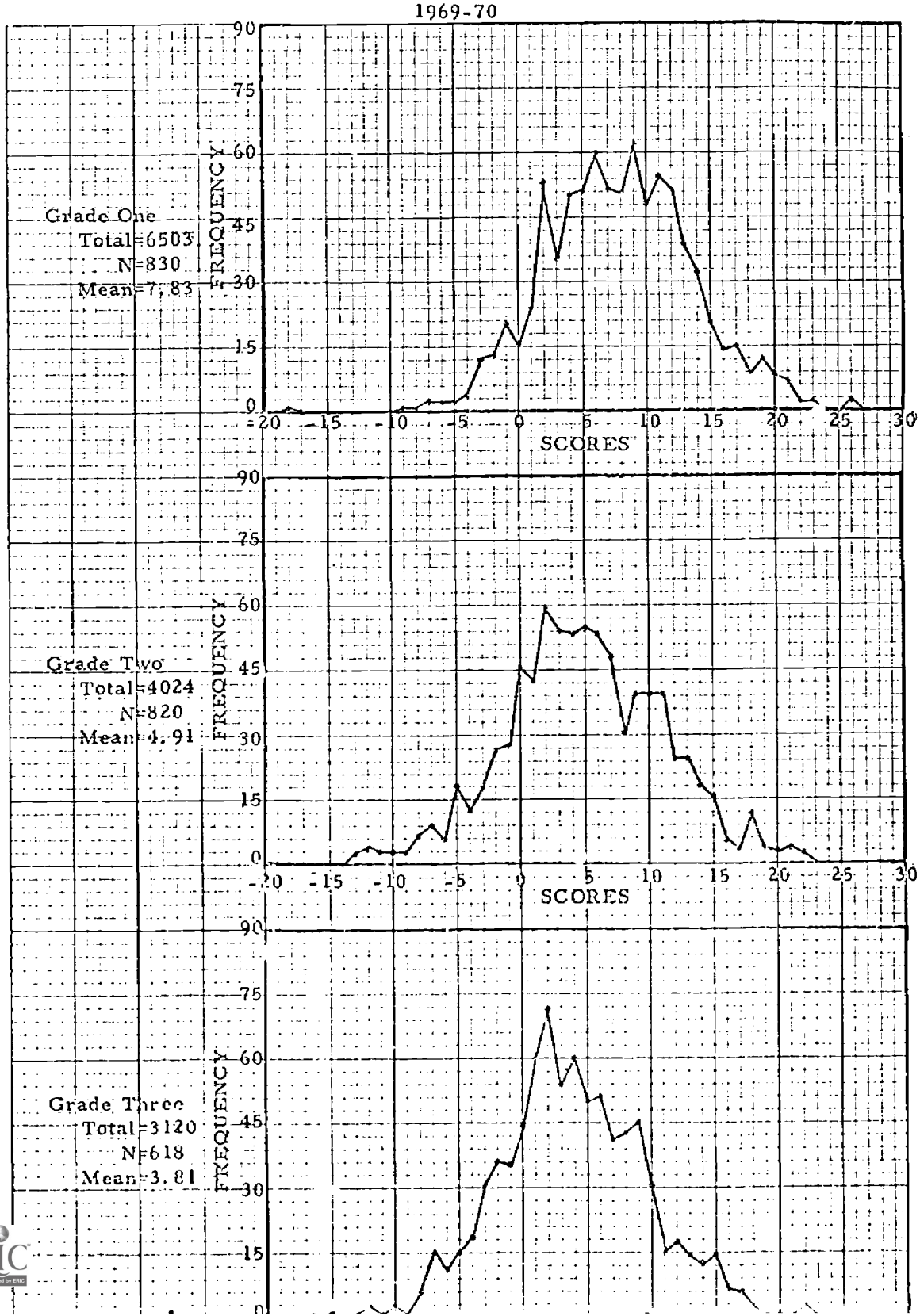
Grade Three
Total=7476
N=424
Mean=17.63



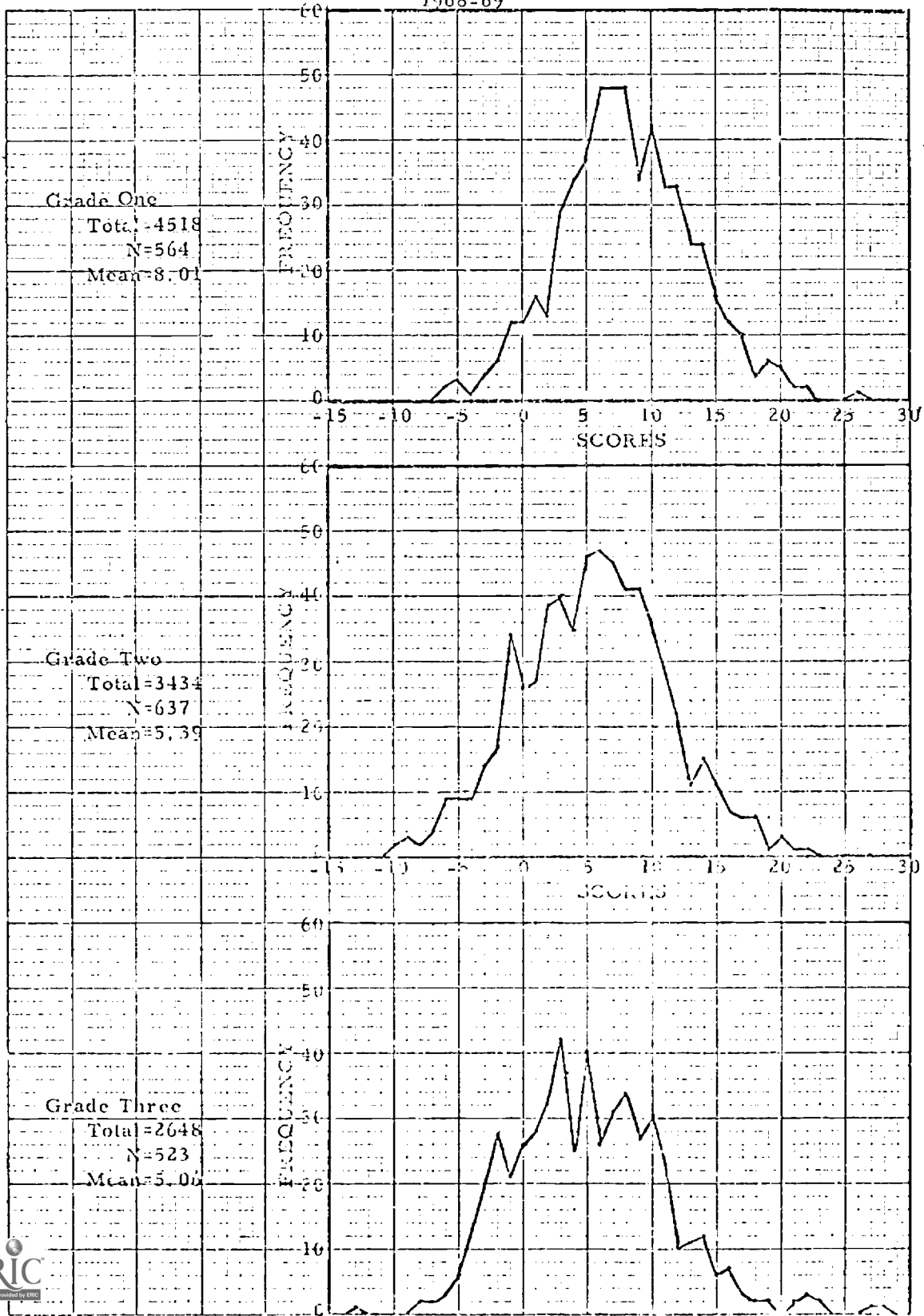
Test II, Aerial Photograph Analysis--Difference
1969-70



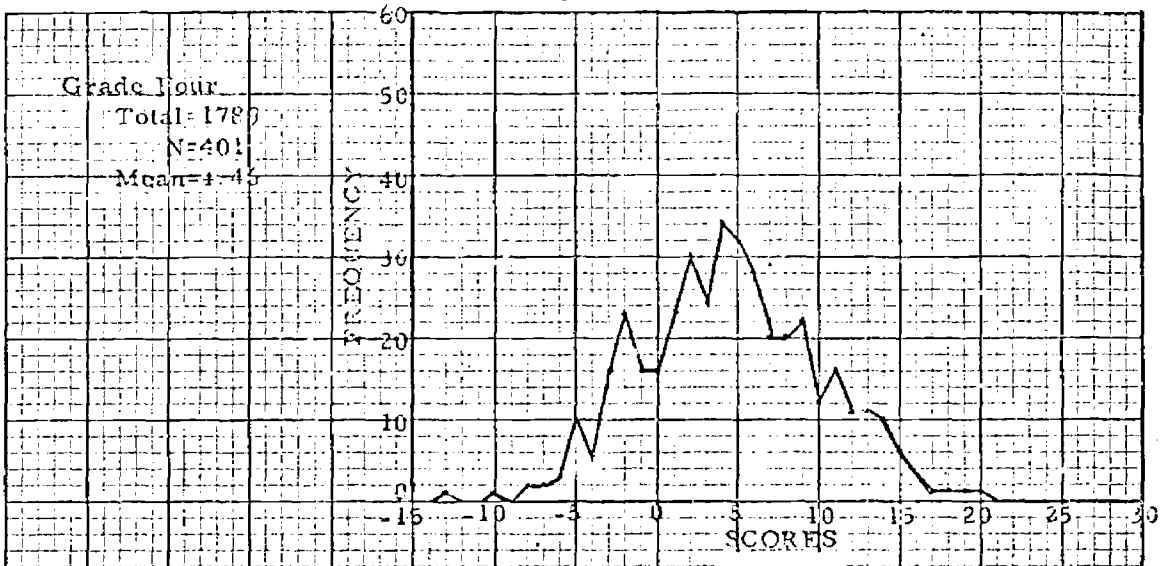
Test II, Aerial Photograph Analysis--Difference
1969-70



Test II, Aerial Photograph Analysis--Difference
1968-69



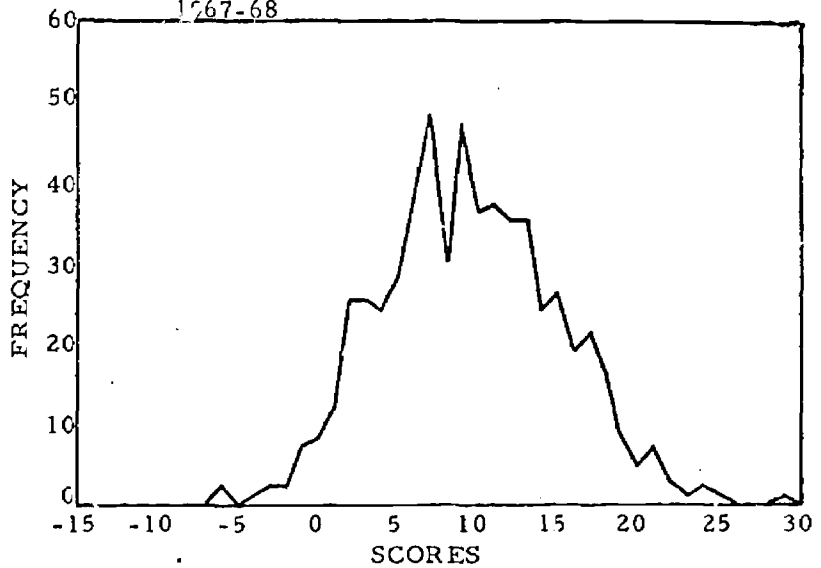
Test II, Aerial Photograph Analysis--Difference 1968-69



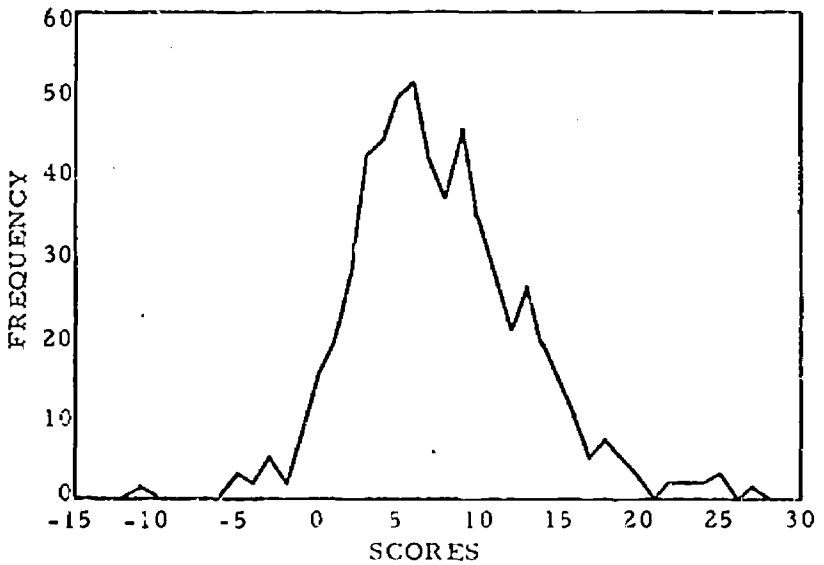
Test II, Aerial Photograph Analysis--Difference

1967-68

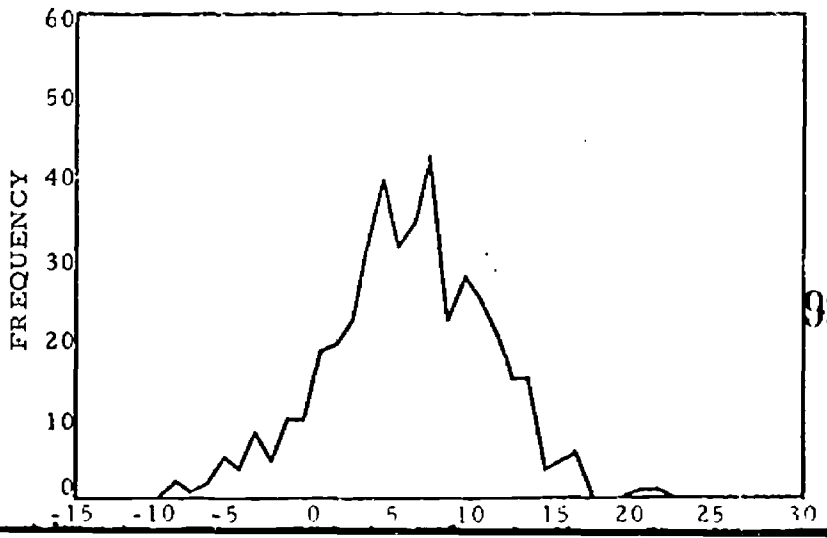
Grade One
Total=5485
N=576
Mean=9.52



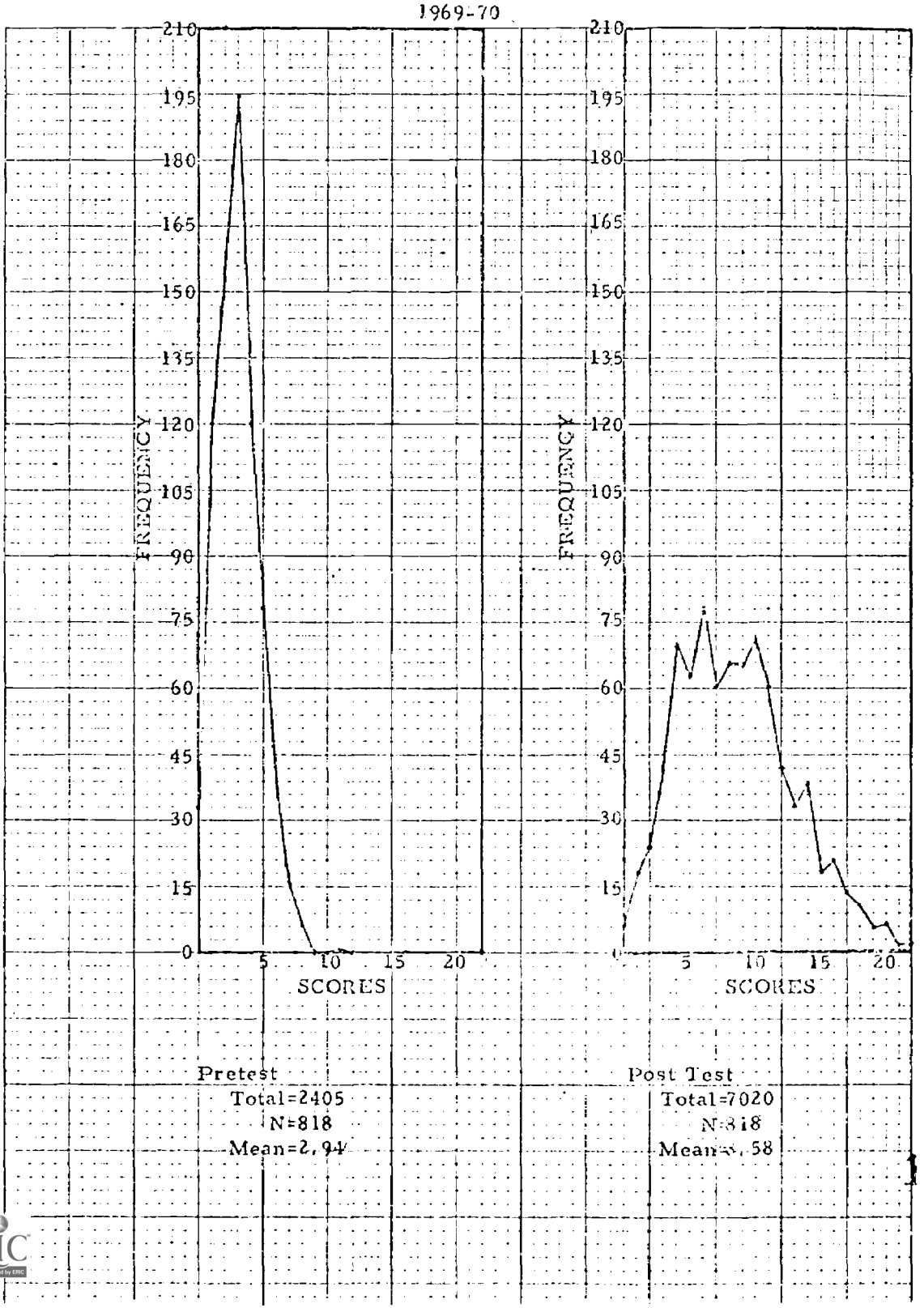
Grade Two
Total=4356
N=576
Mean=7.56



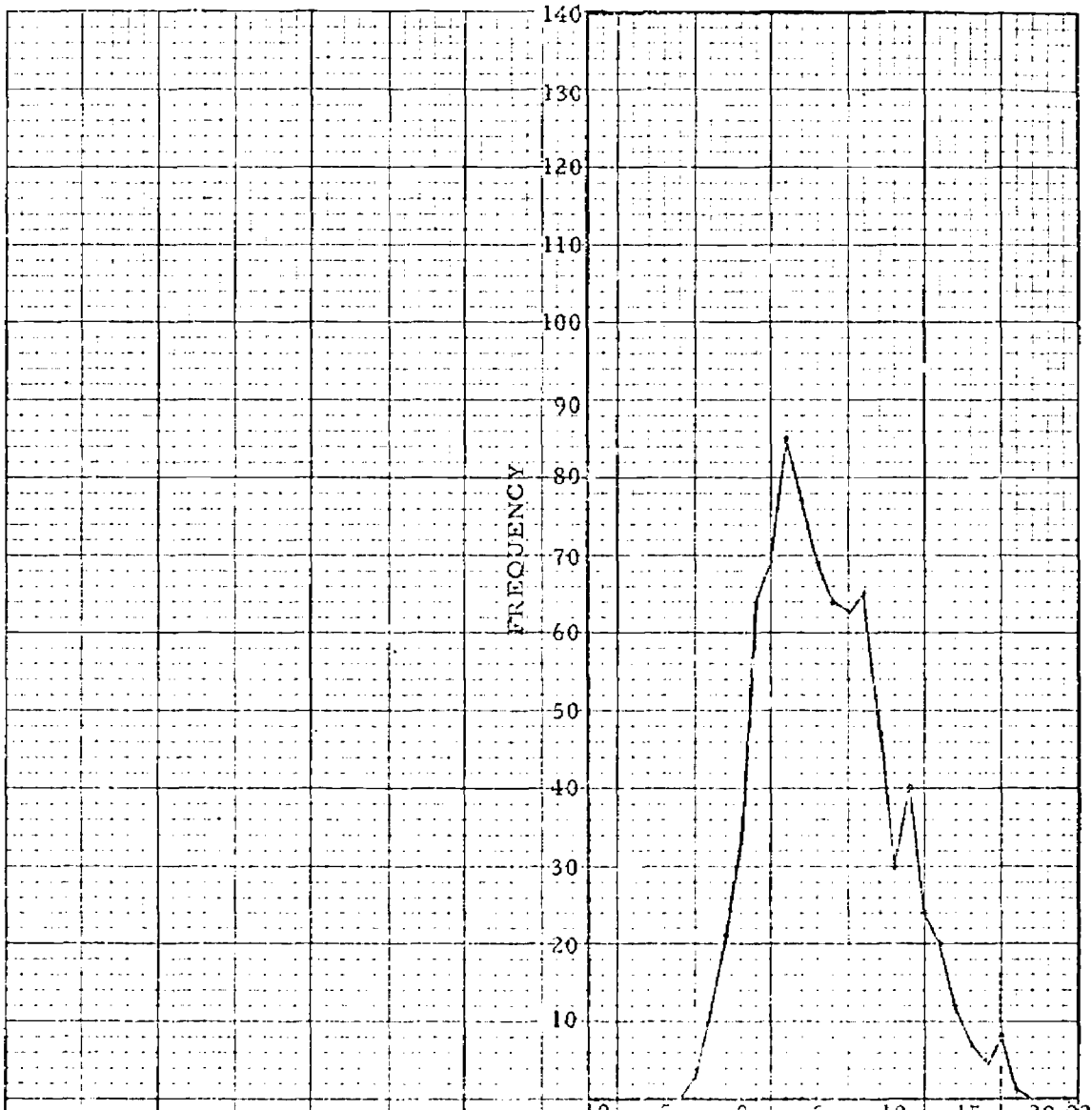
Grade Three
Total=2330
N=424
Mean=5.50



Test III, Mapping--Grade Three
1969-70

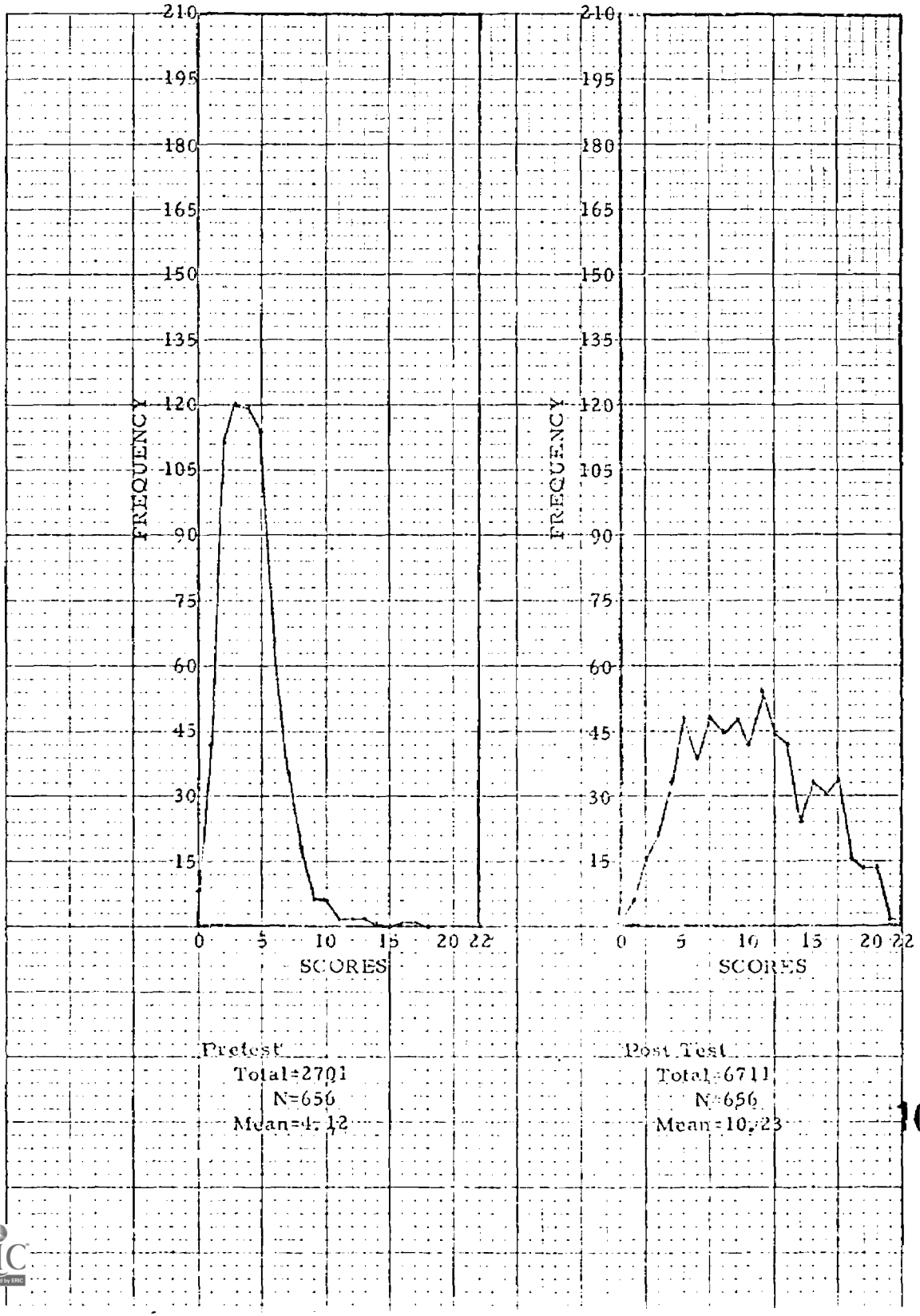


Test III, Mapping--Grade Three
1969-70

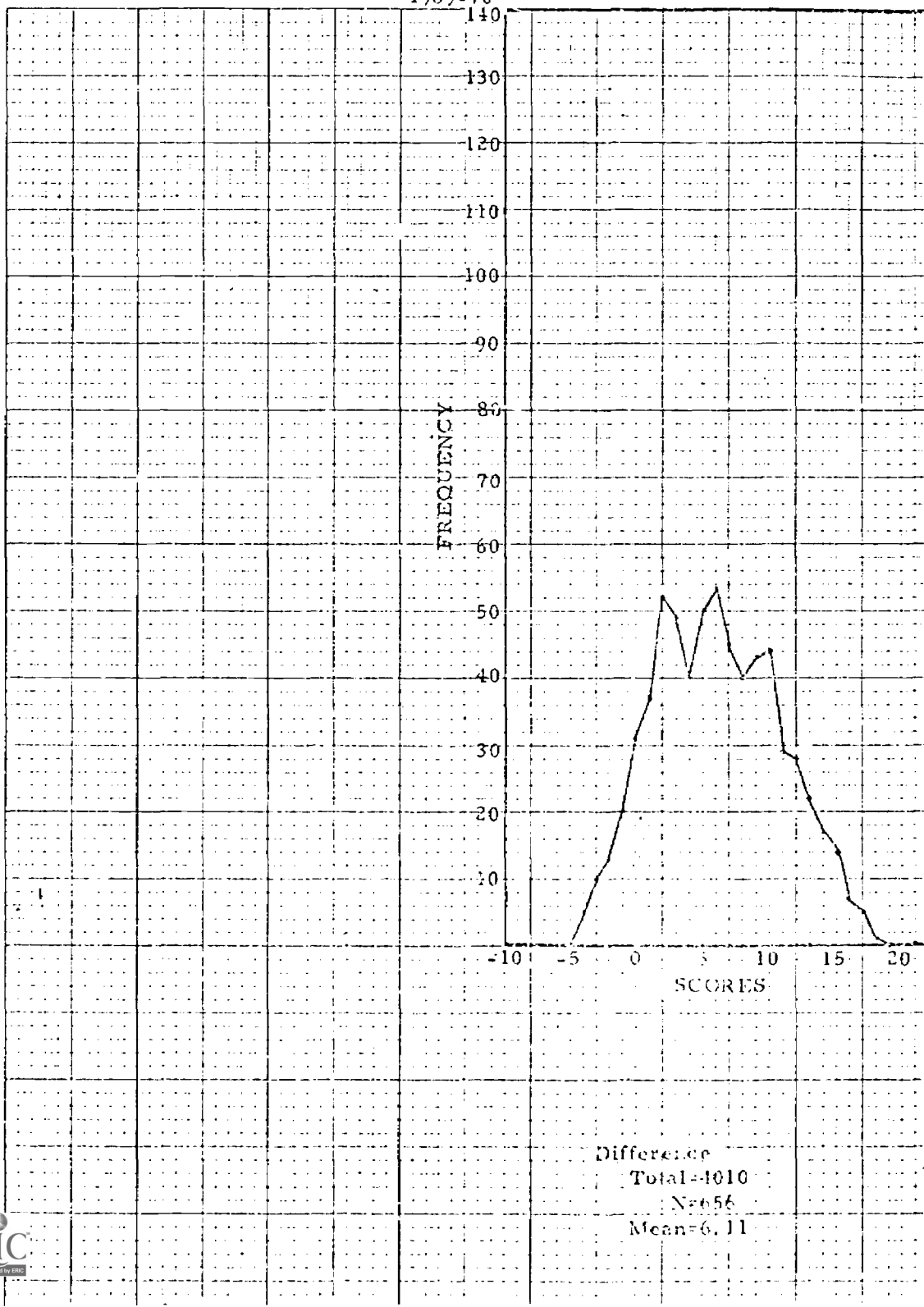


Difference
Total=4615
N=819
Mean=5.65

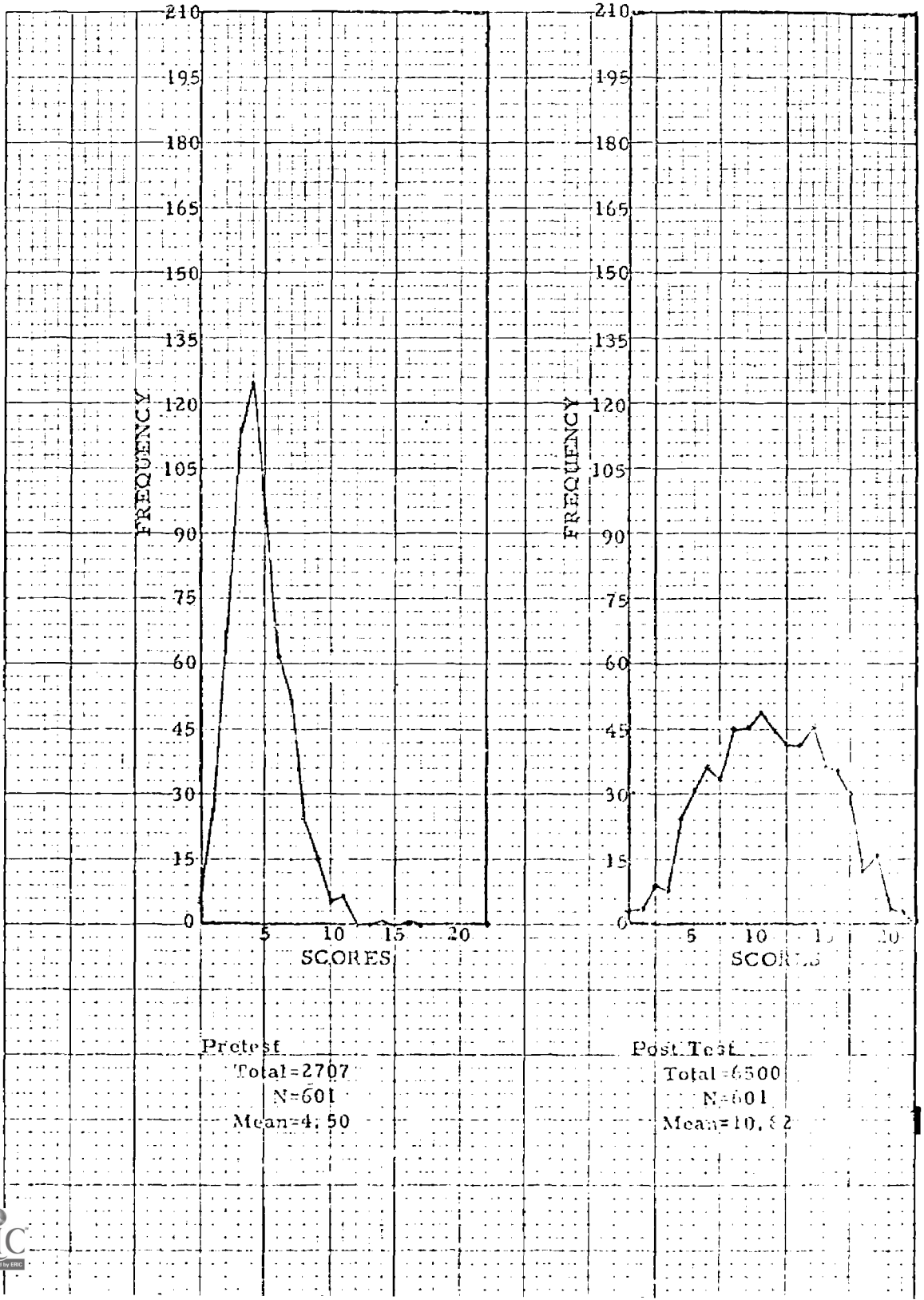
Test III, Mapping--Grade Four 1969-70



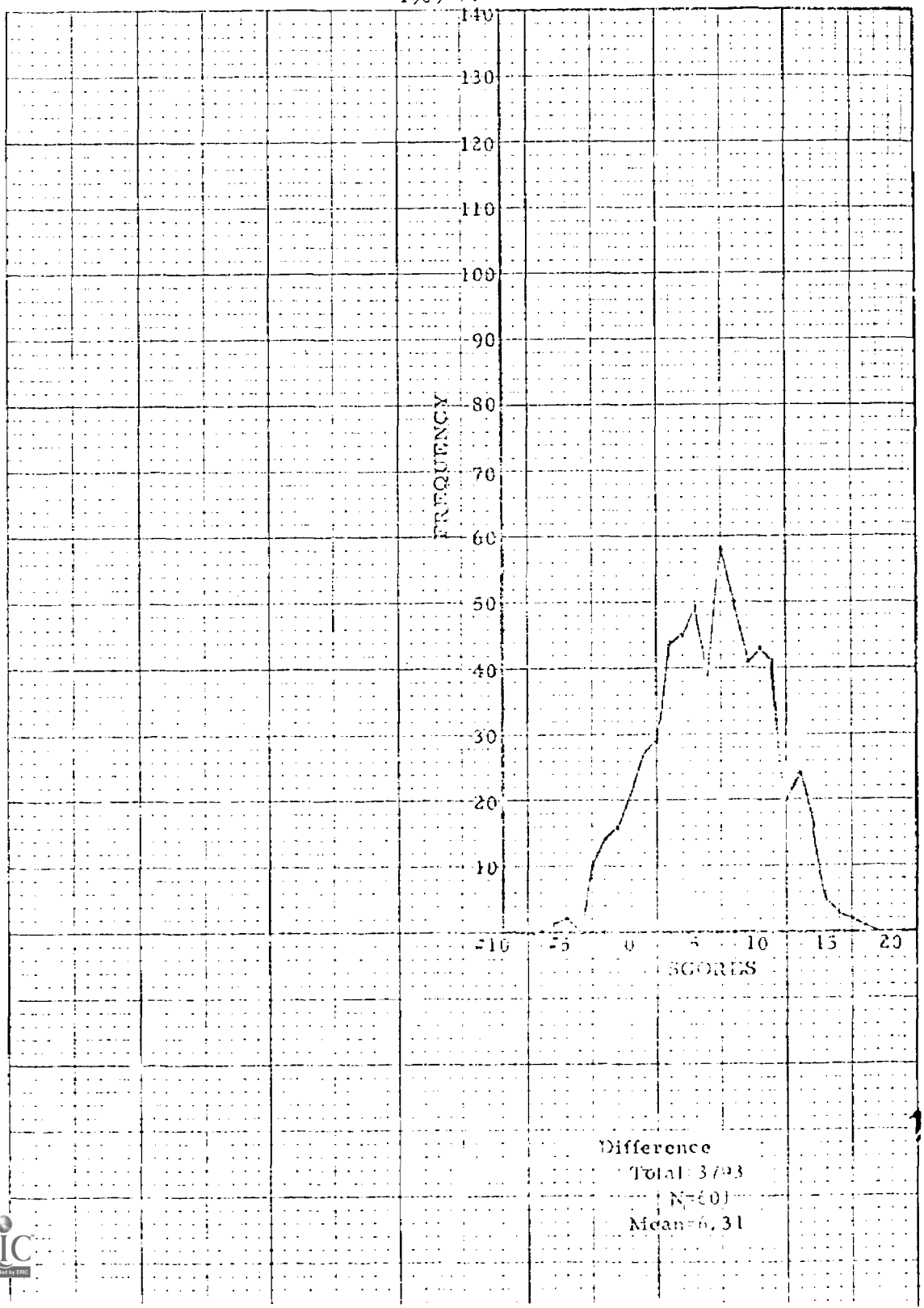
Test III, Mapping--Grade Four
1969-70



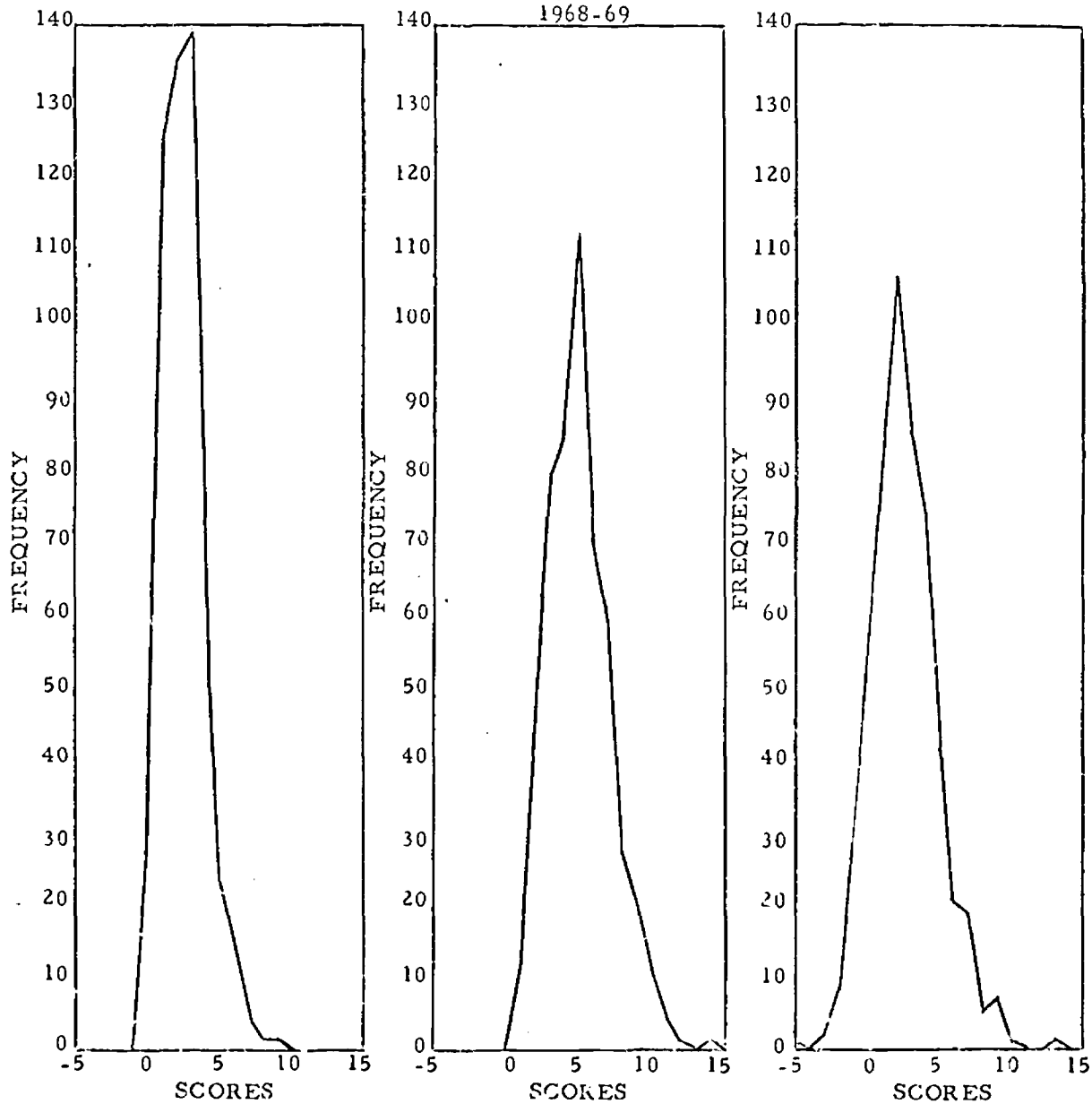
Test III, Mapping--Grade Five
1969-70



Test III, Mapping--Grade Five
1969-70

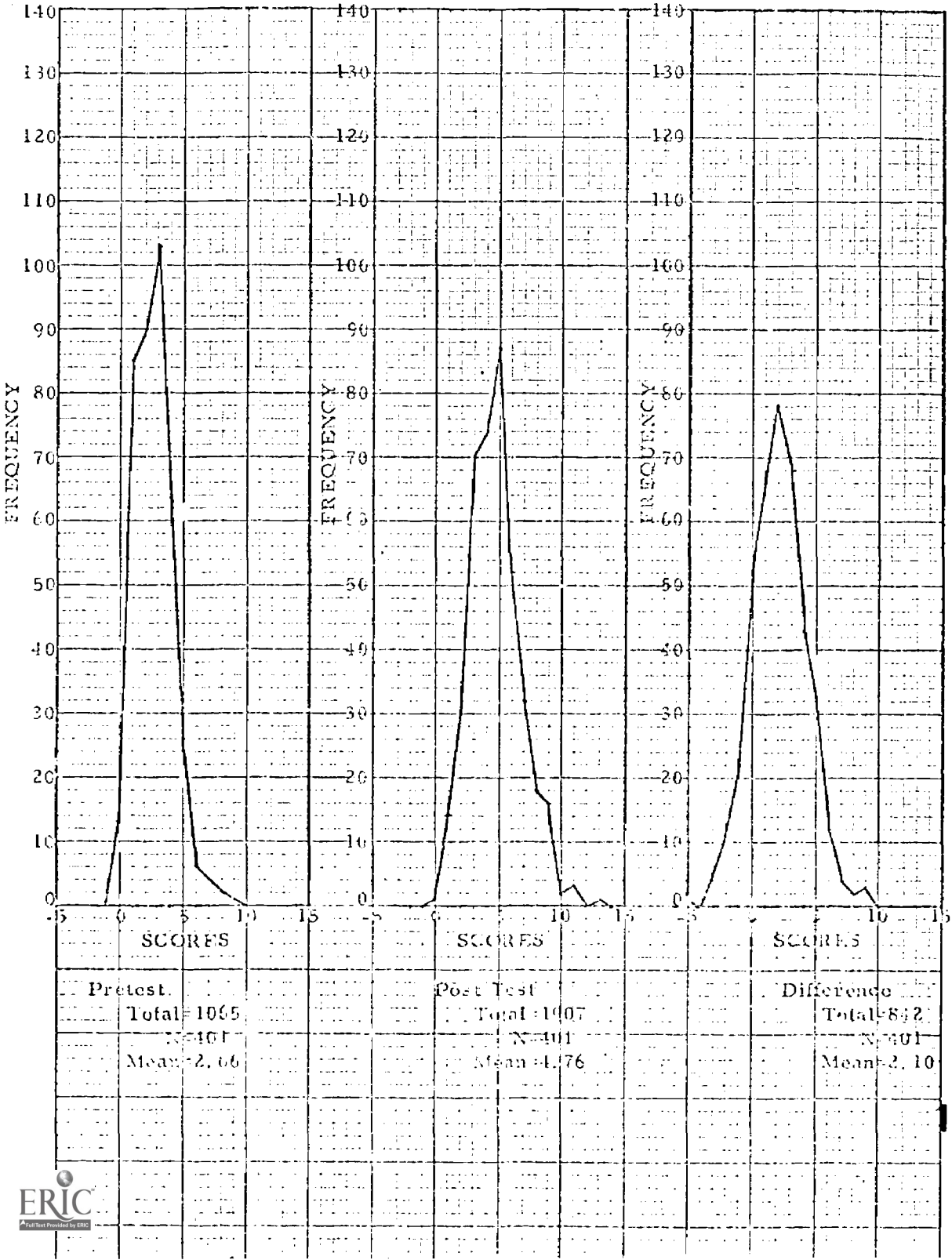


Test III, Mapping--Grade Three
1968-69

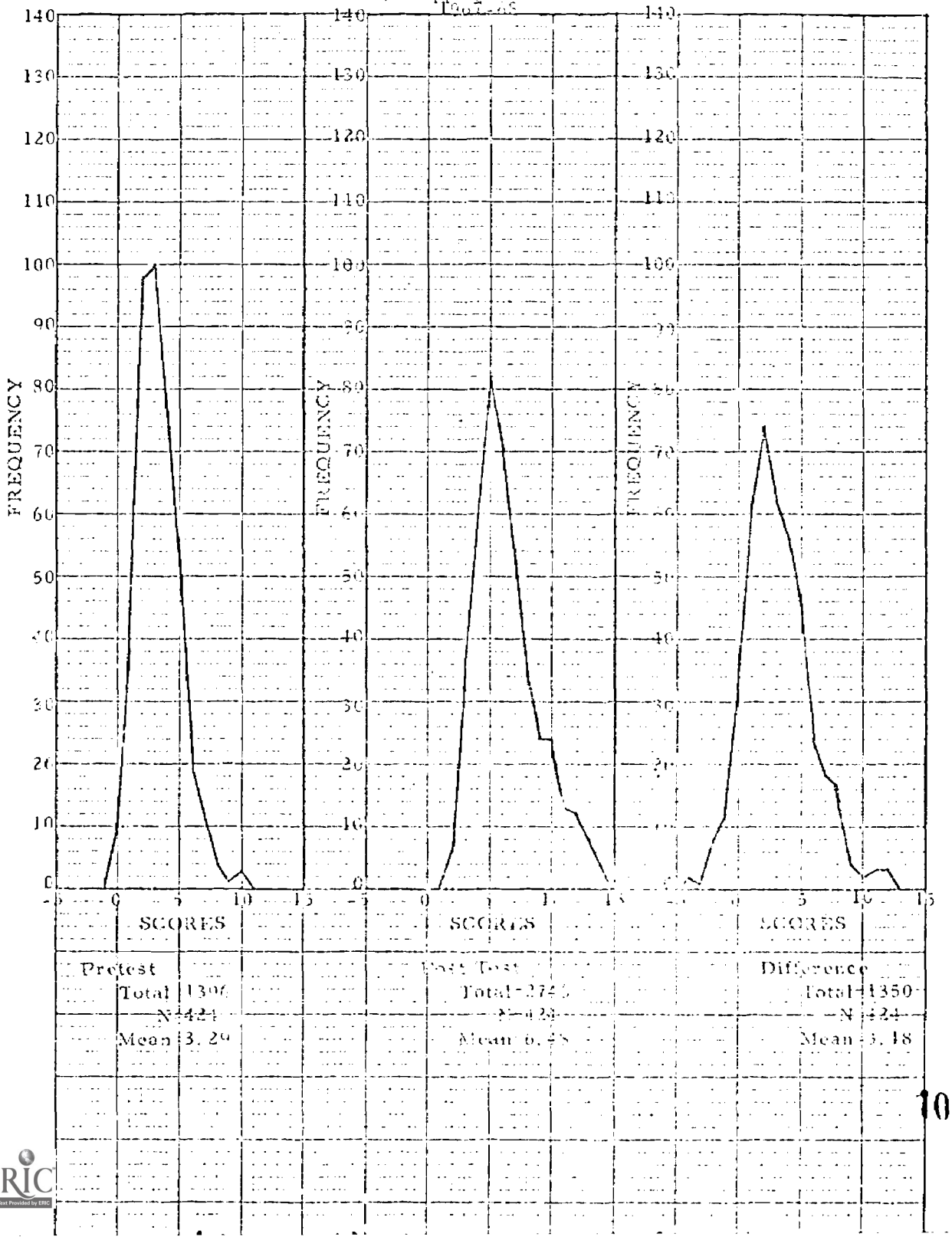


Pretest	Post Test	Difference
Total=1271	Total=2626	Total=1355
N=523	N=523	N=523
Mean=2.43	Mean=5.02	Mean=2.59

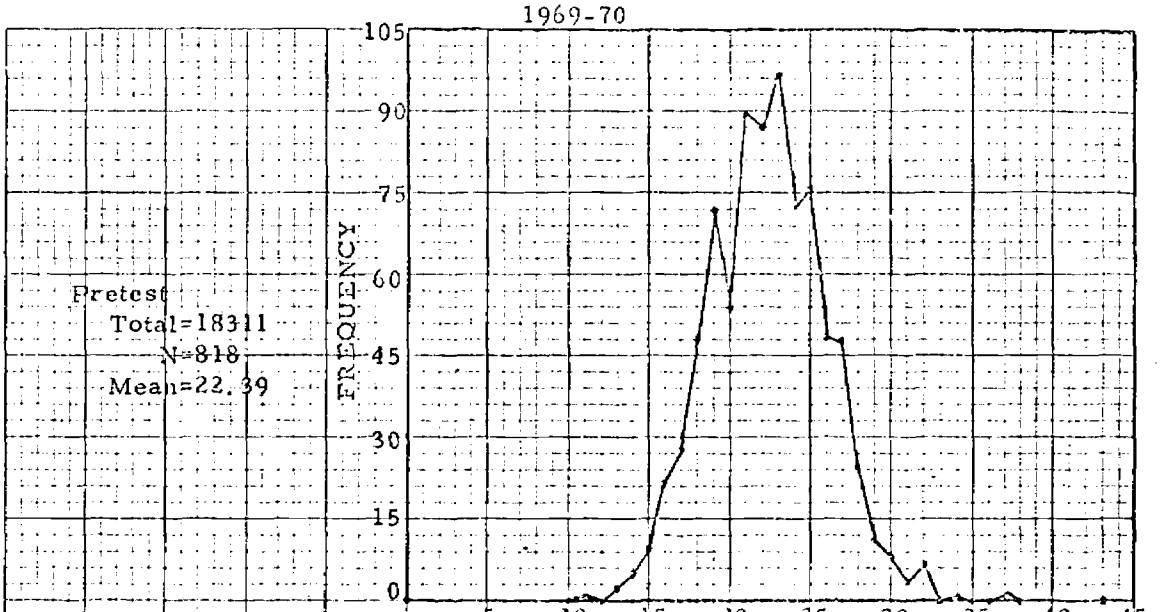
Test III, Mapping--Grade Four 1968-69

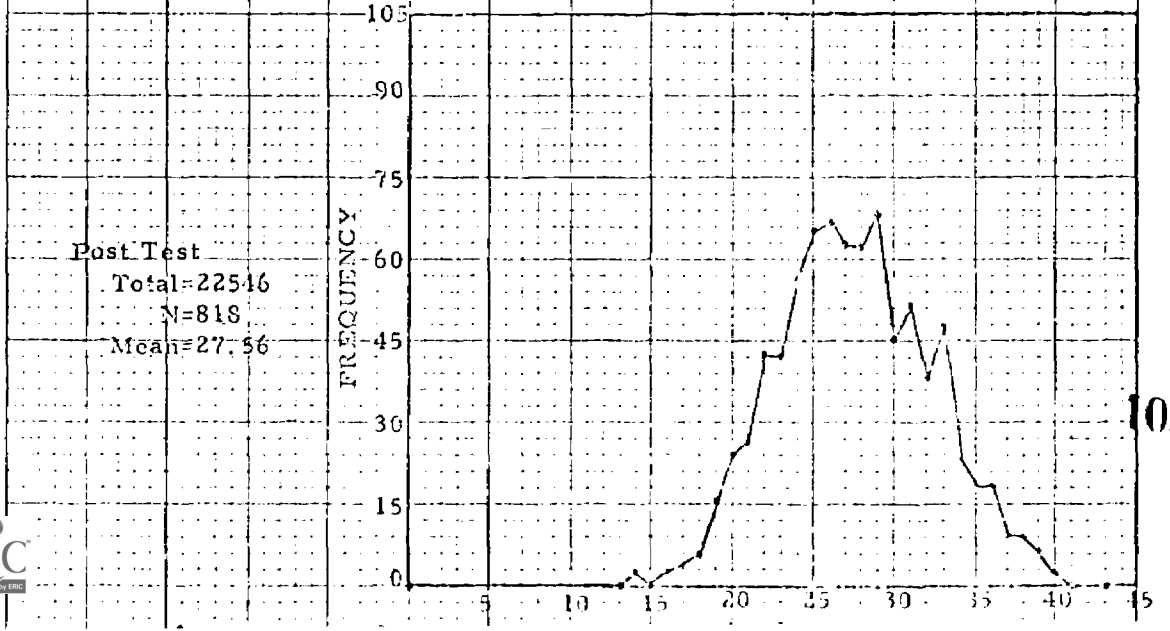


Test III, Mapping--Grade Three

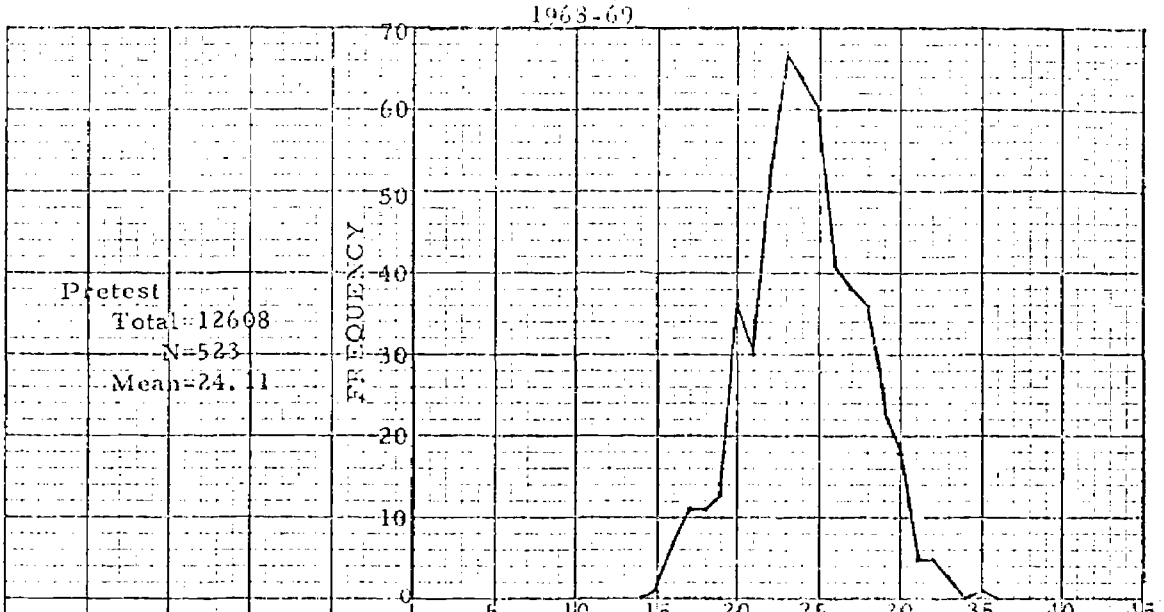


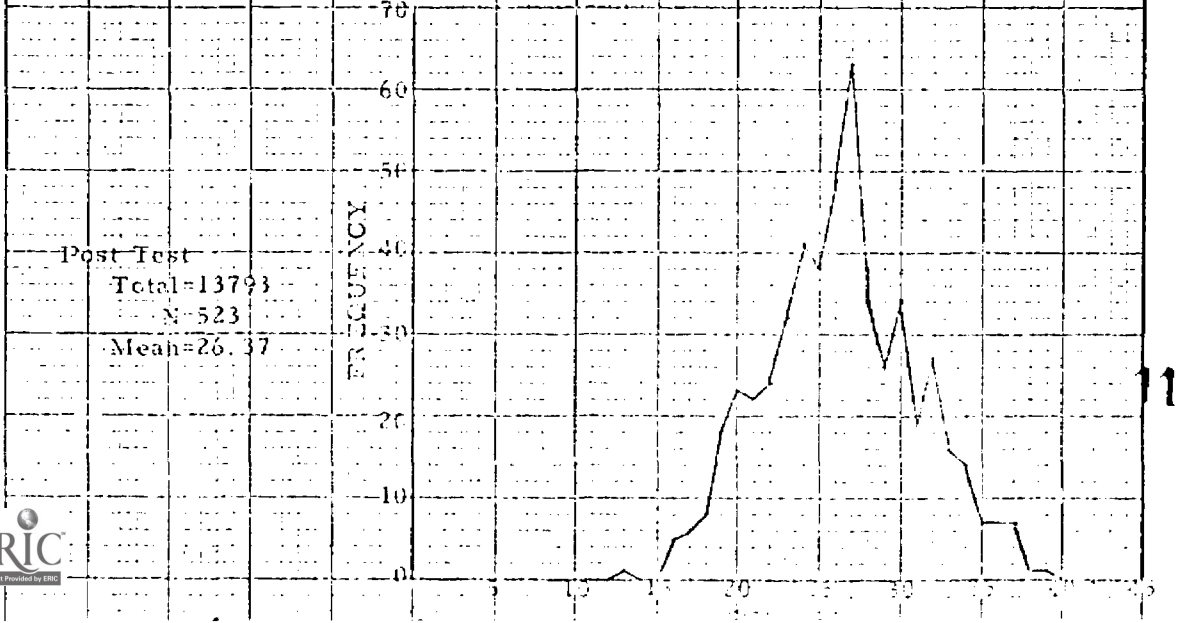
Test IV, Historical Geography--Grade Three
1969-70





Test IV, Historical Geography--Grade Three
1968-69

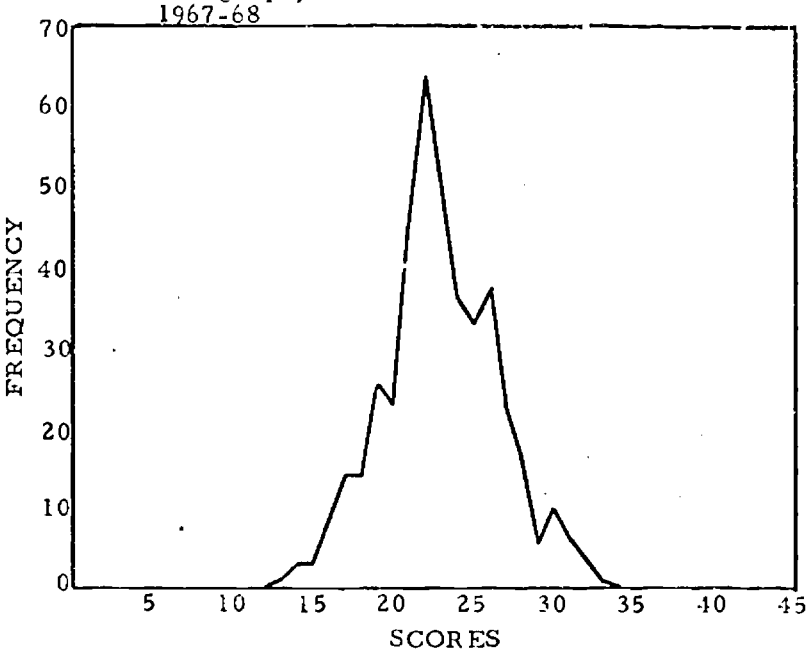




Test IV, Historical Geography--Grade Three
1967-68

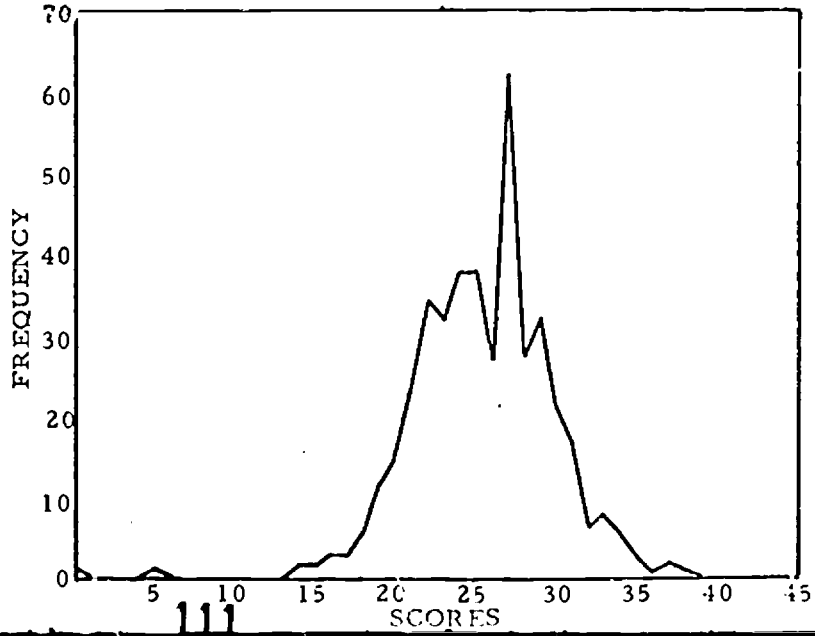
Pretest

Total=9719
N=424
Mean=22.92

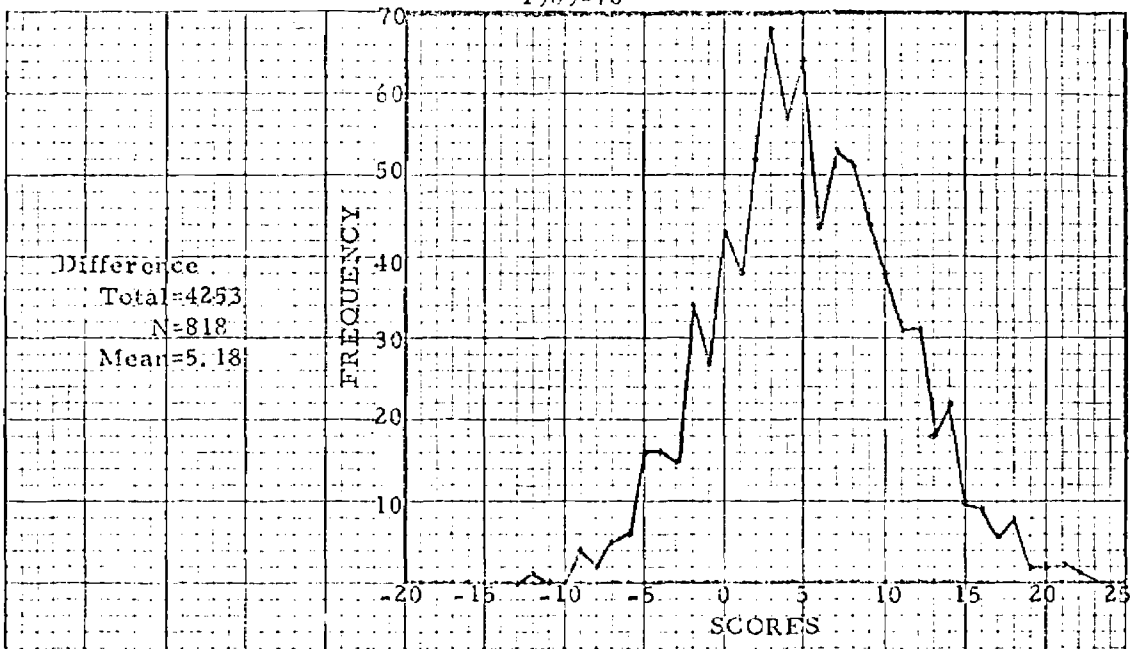


Post Test

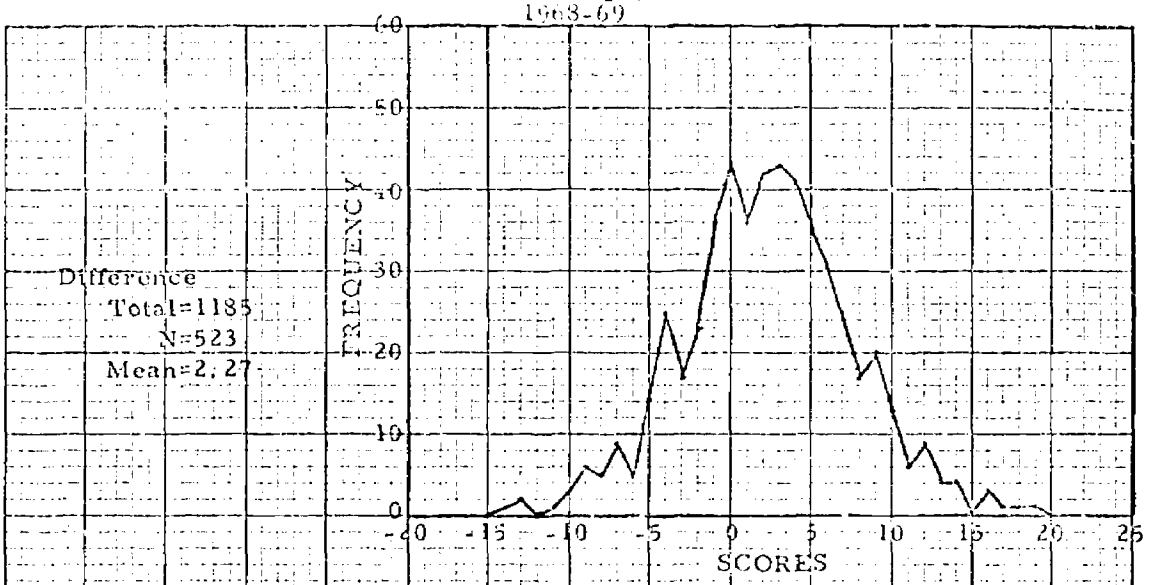
Total=10817
N=424
Mean=25.51



Test IV, Historical Geography--Grade Three
1969-70

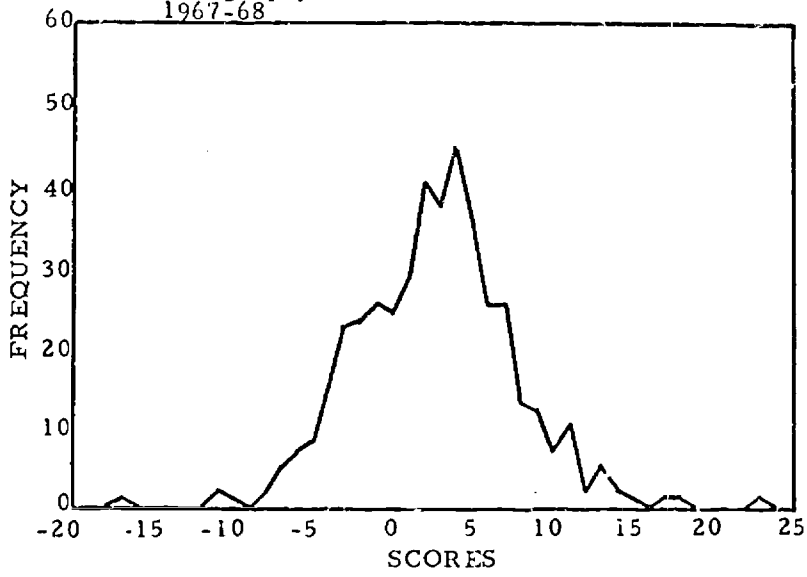


Test IV, Historical Geography--Grade Three
1968-69

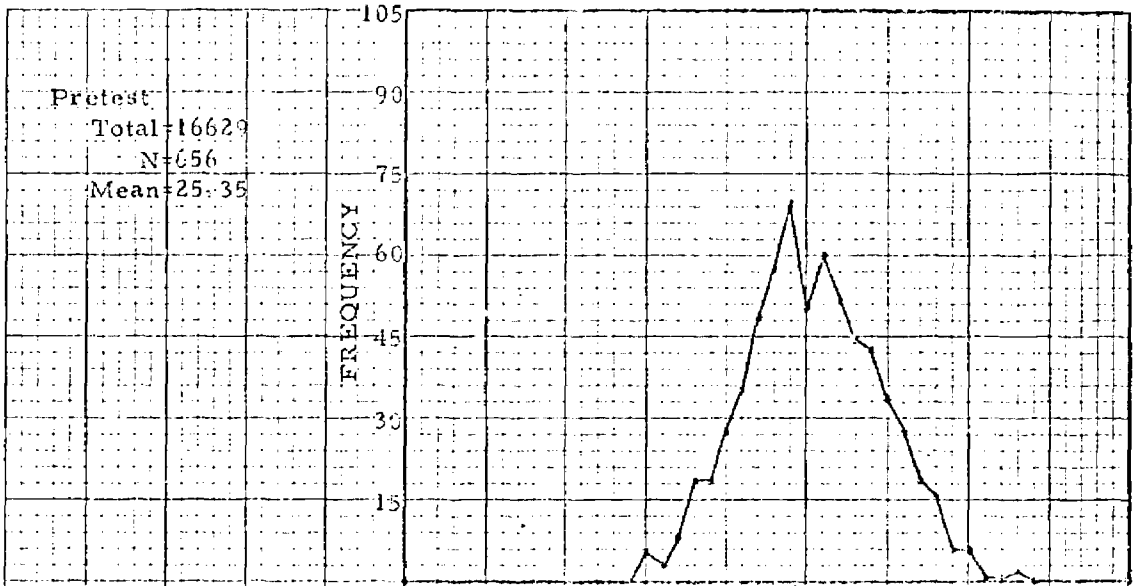


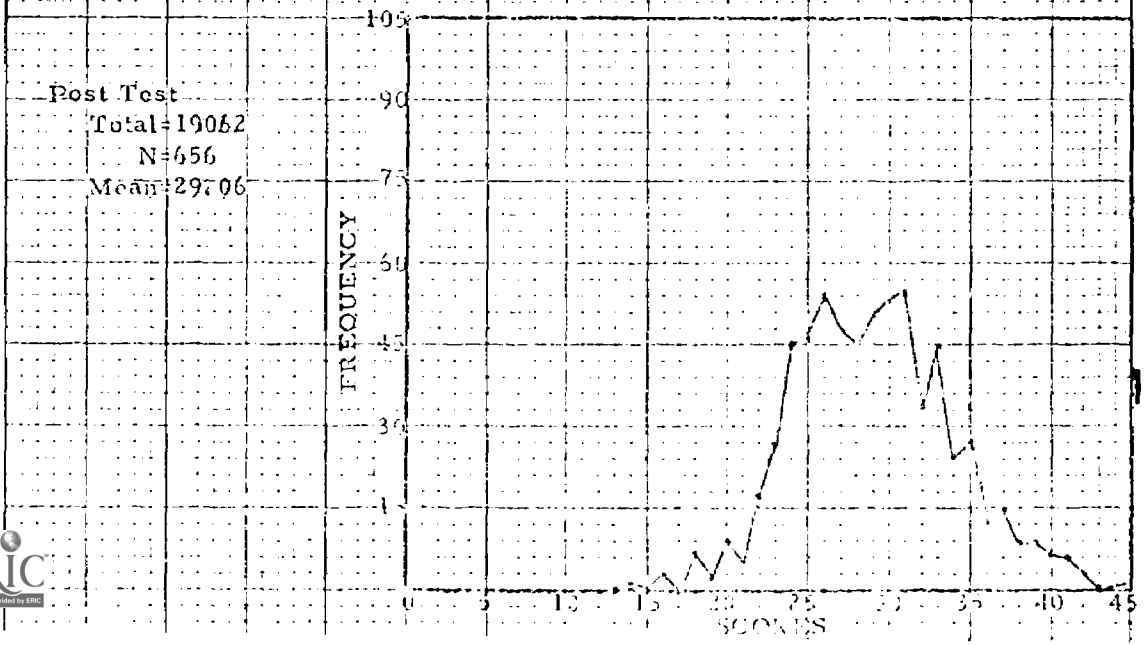
Test IV, Historical Geography--Grade Three
1967-68

Difference
Total=1098
N=424
Mean=2.59

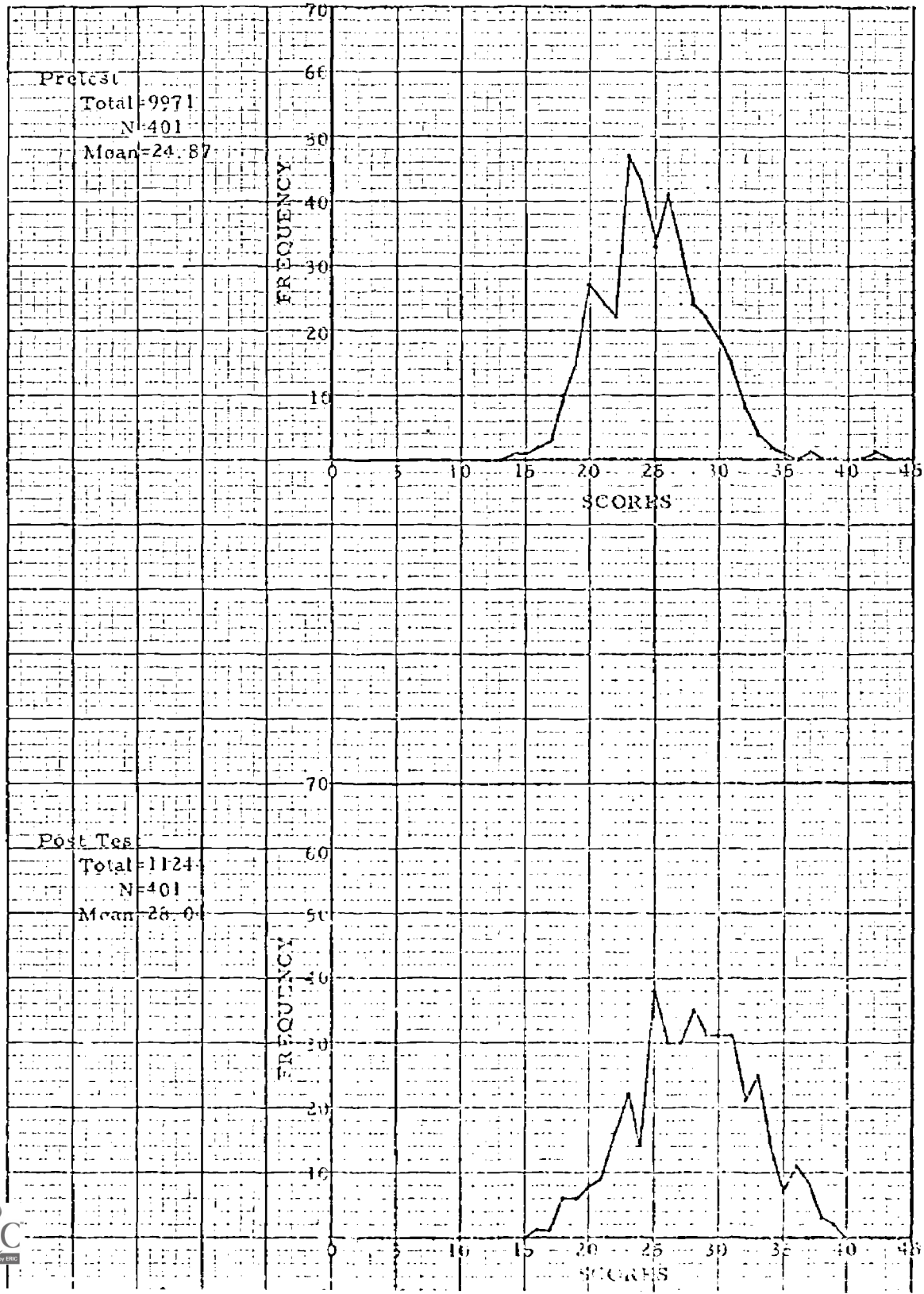


Test IV, Historical Geography--Grade Four 1969-70

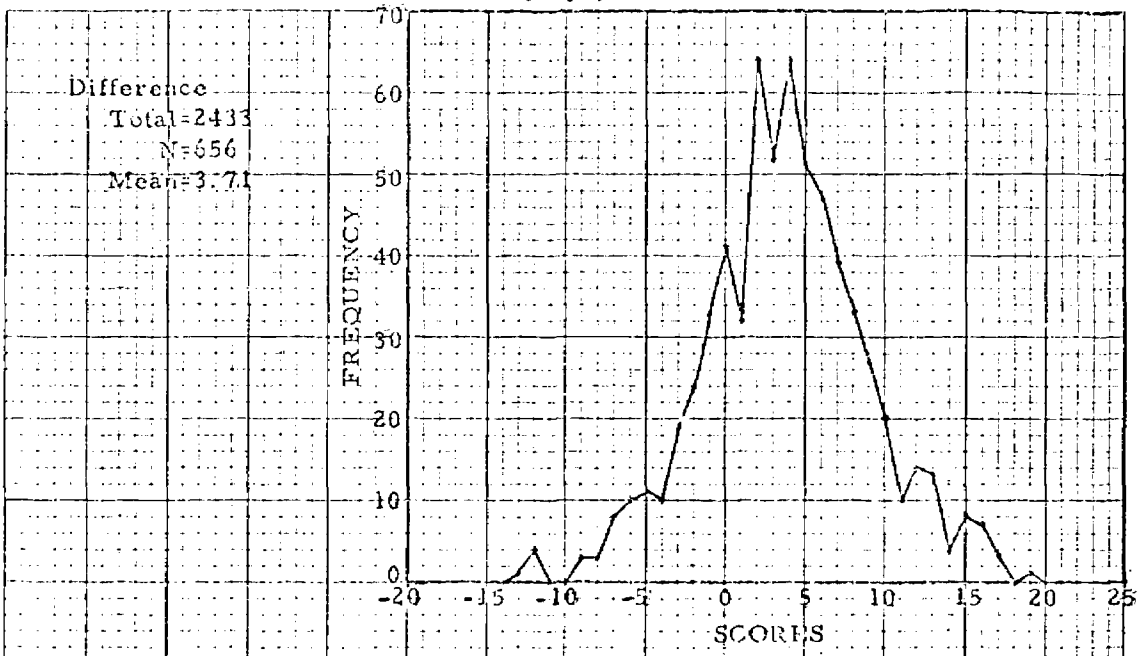




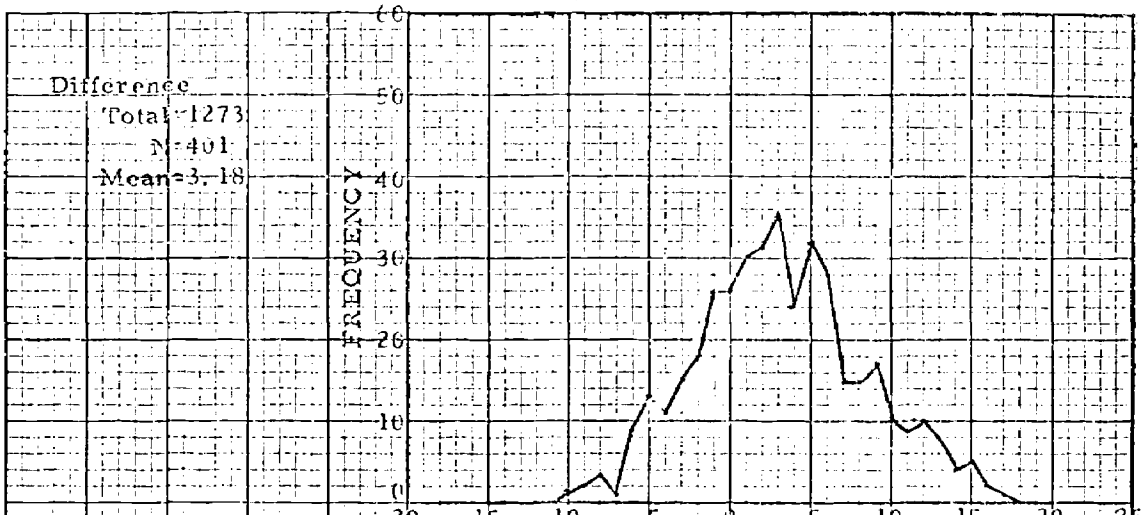
Test IV, Historical Geography--Grade Four 1968-69



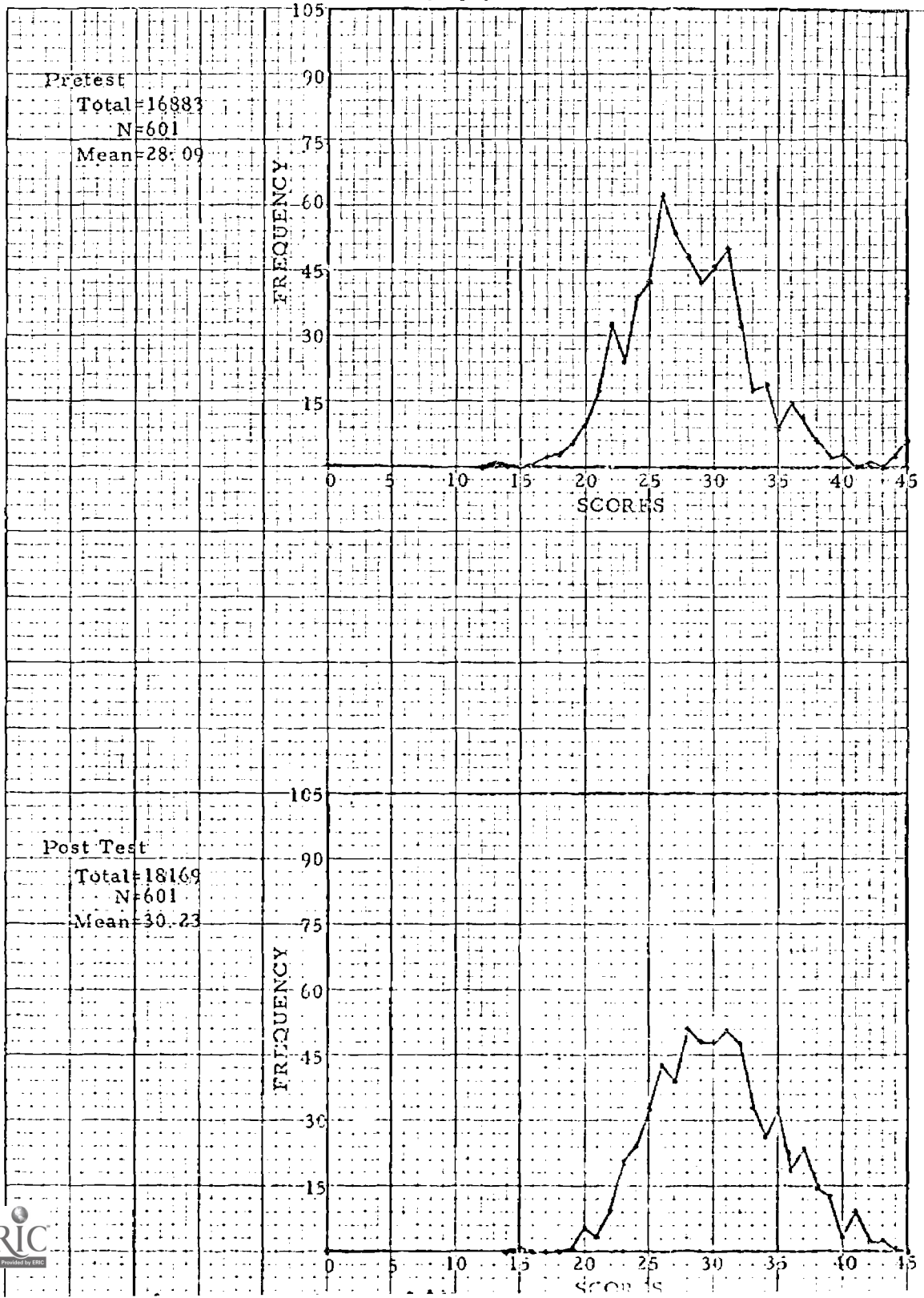
Test IV, Historical Geography--Grade Four 1969-70



Test IV, Historical Geography--Grade Four 1968-69



Test IV, Historical Geography--Grade Five 1969-70



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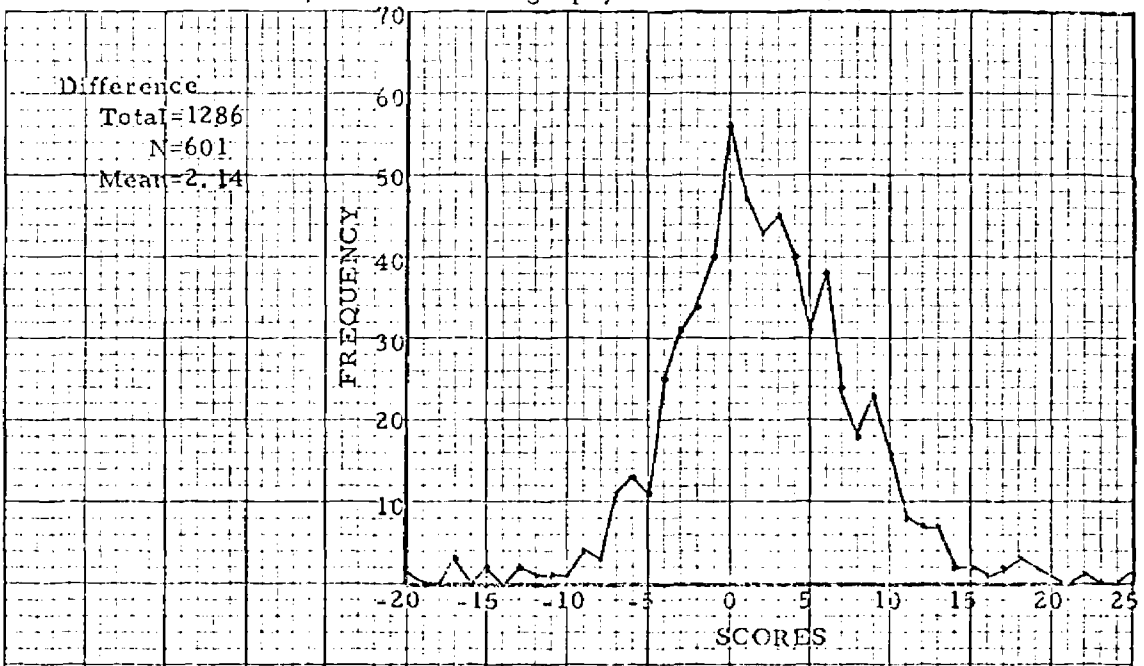

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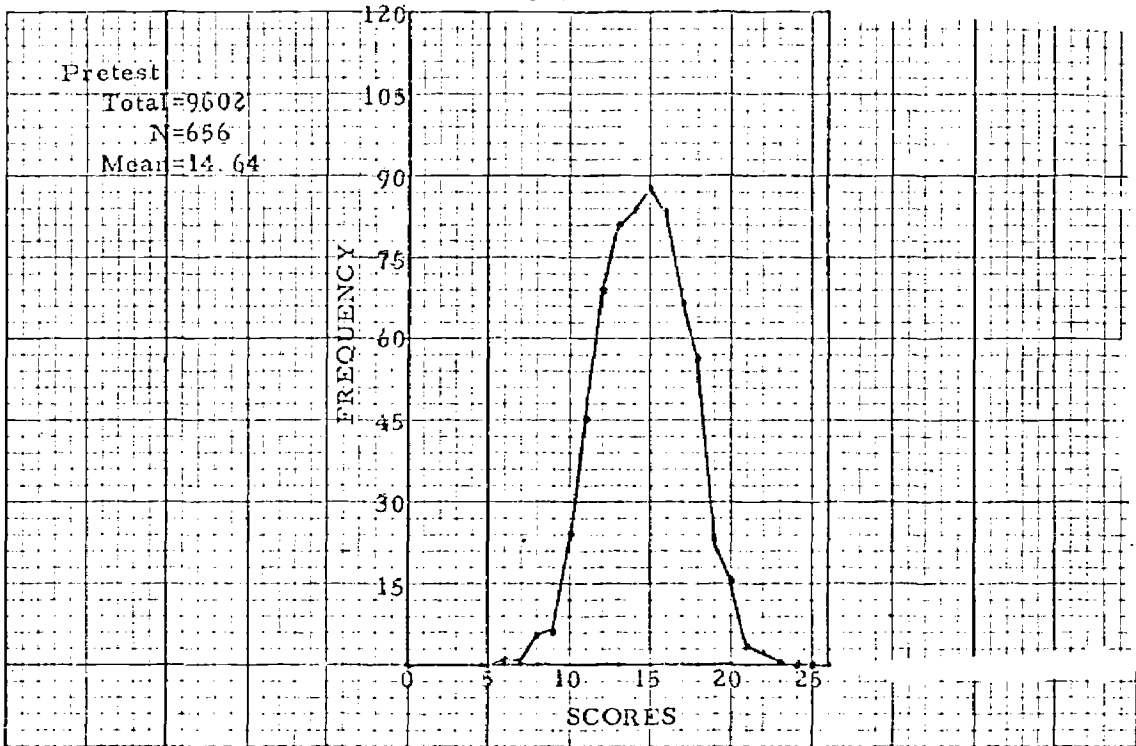

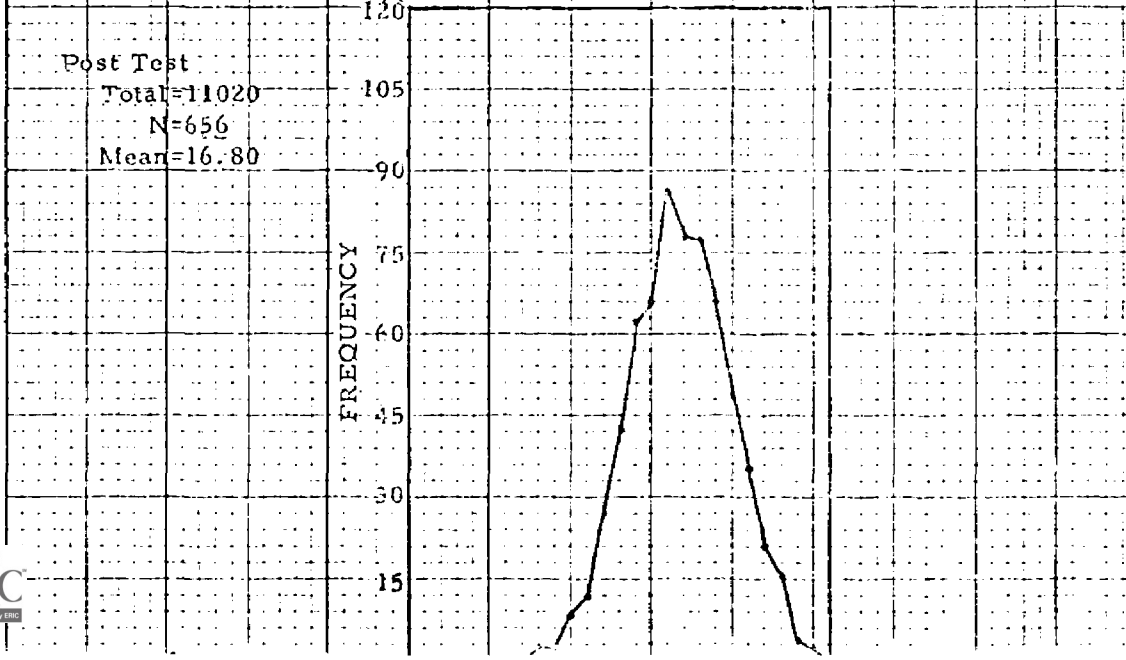

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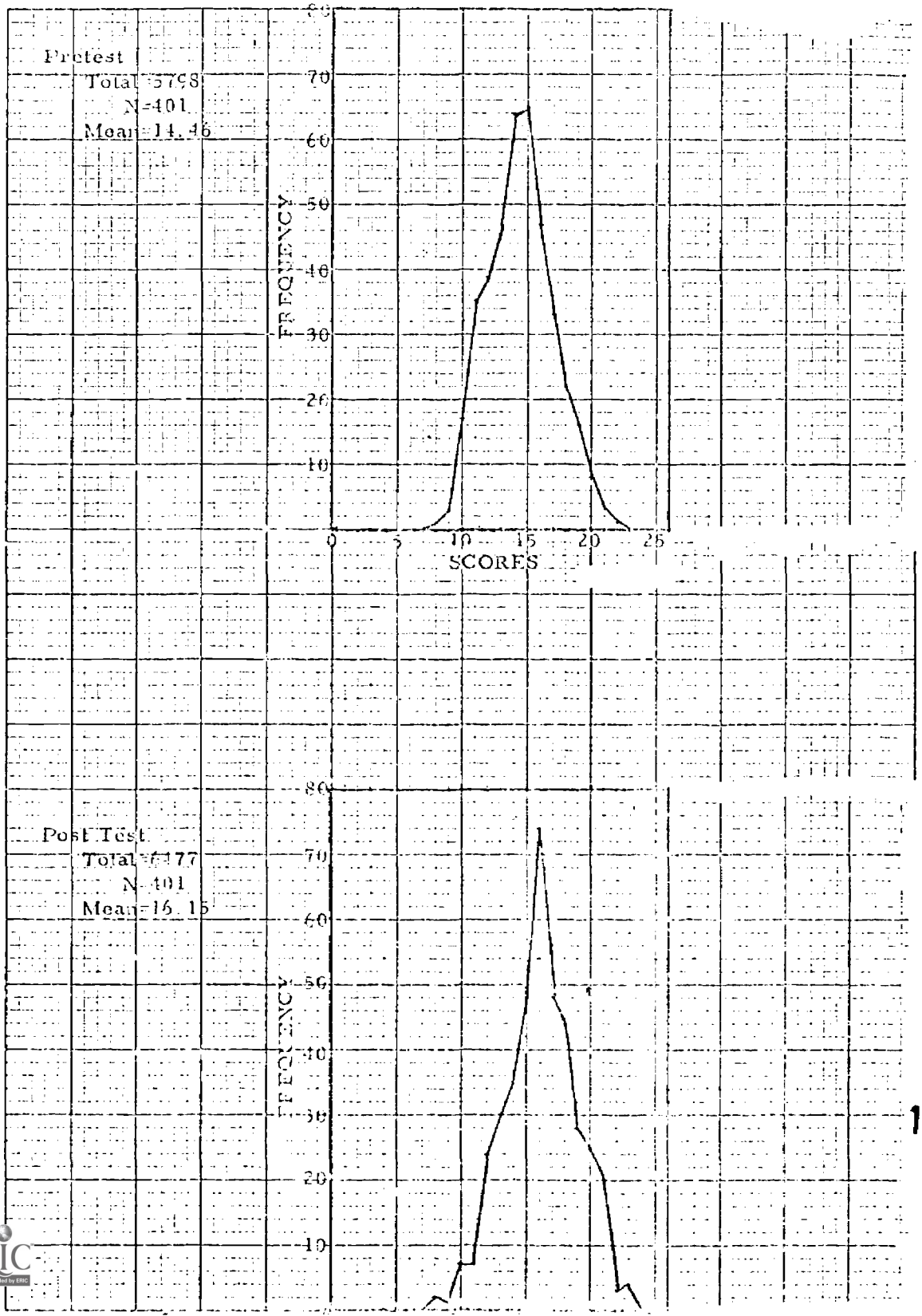

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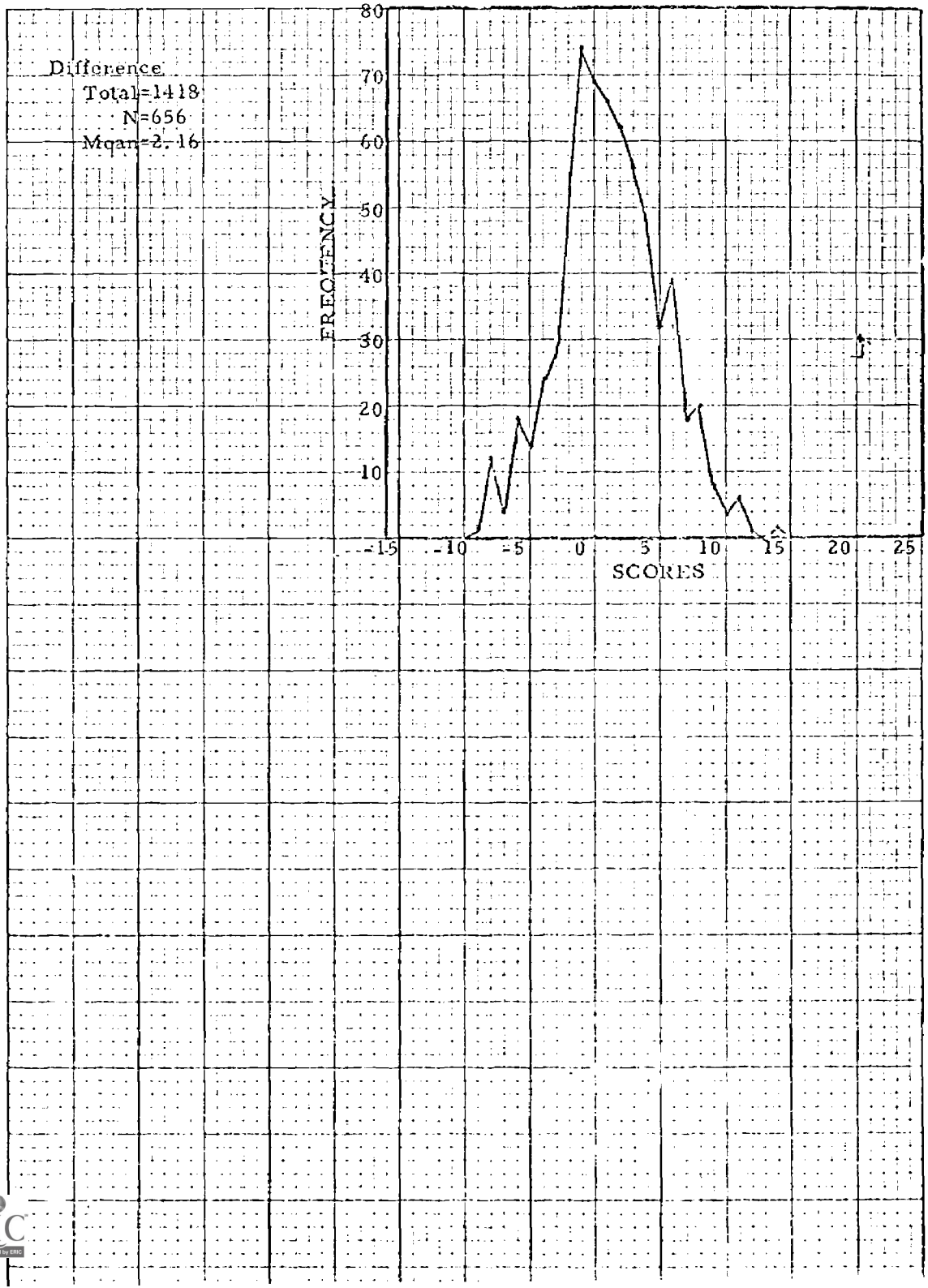

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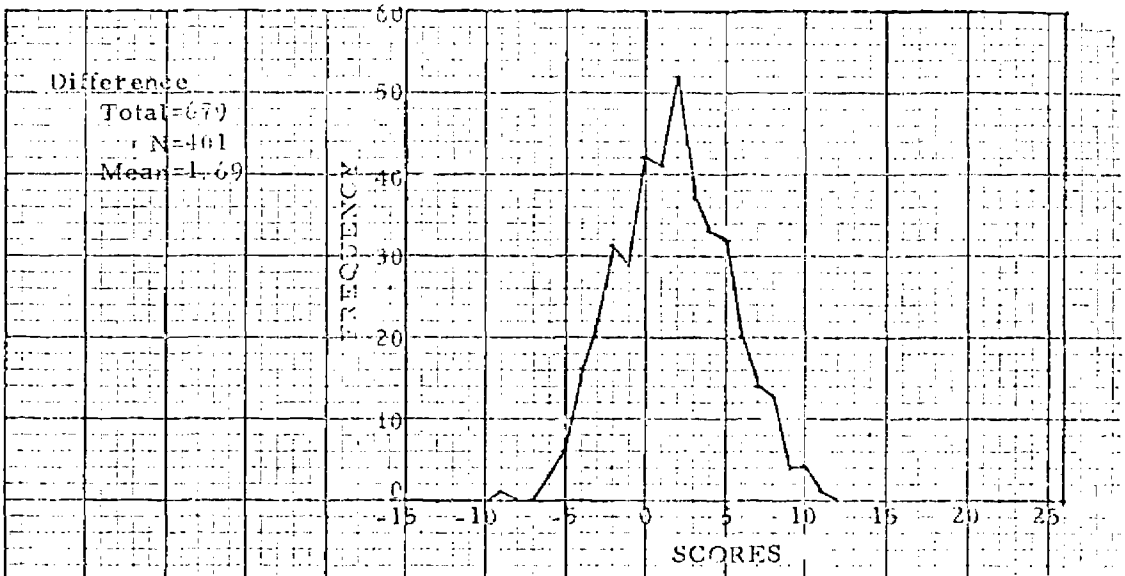

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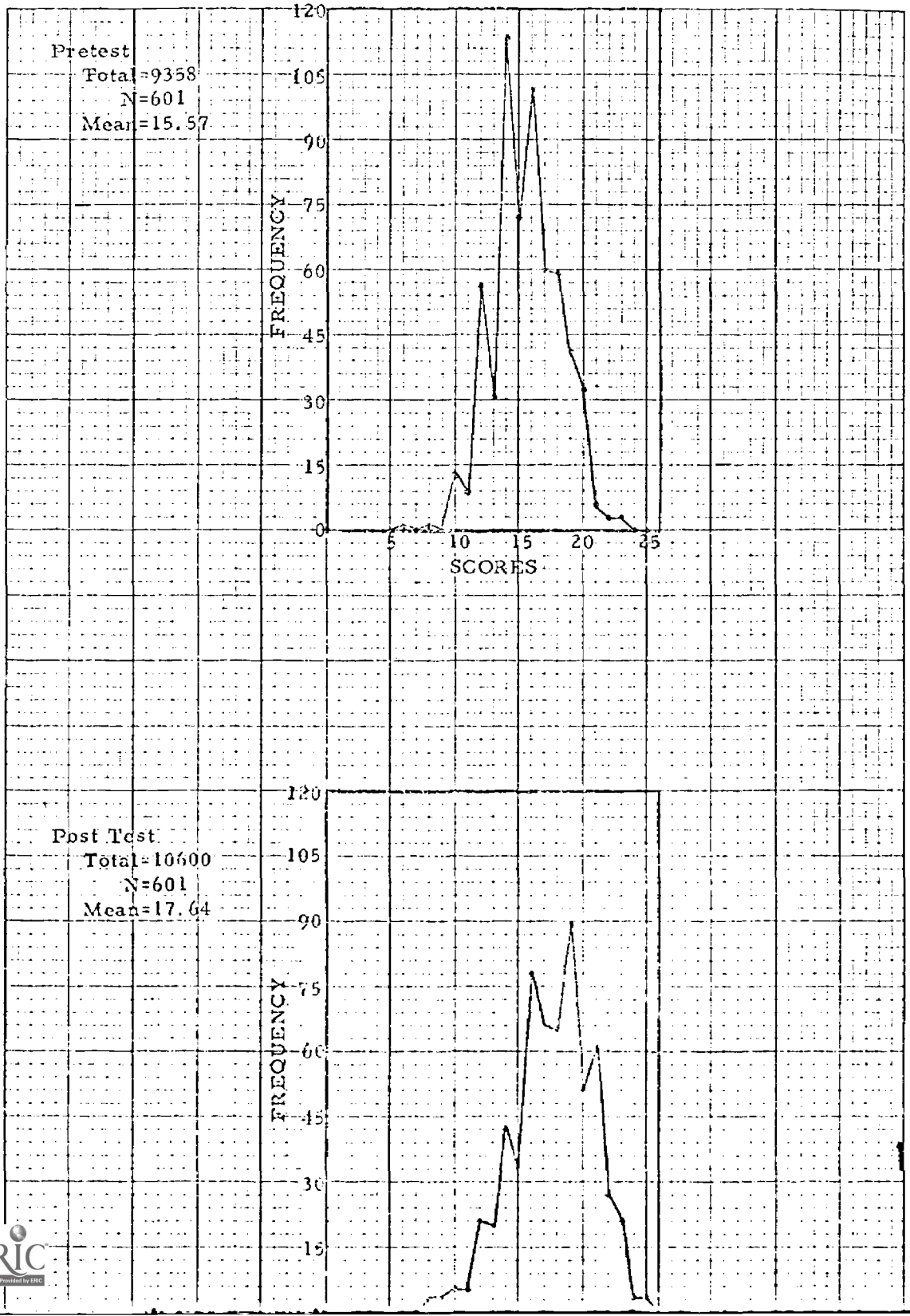

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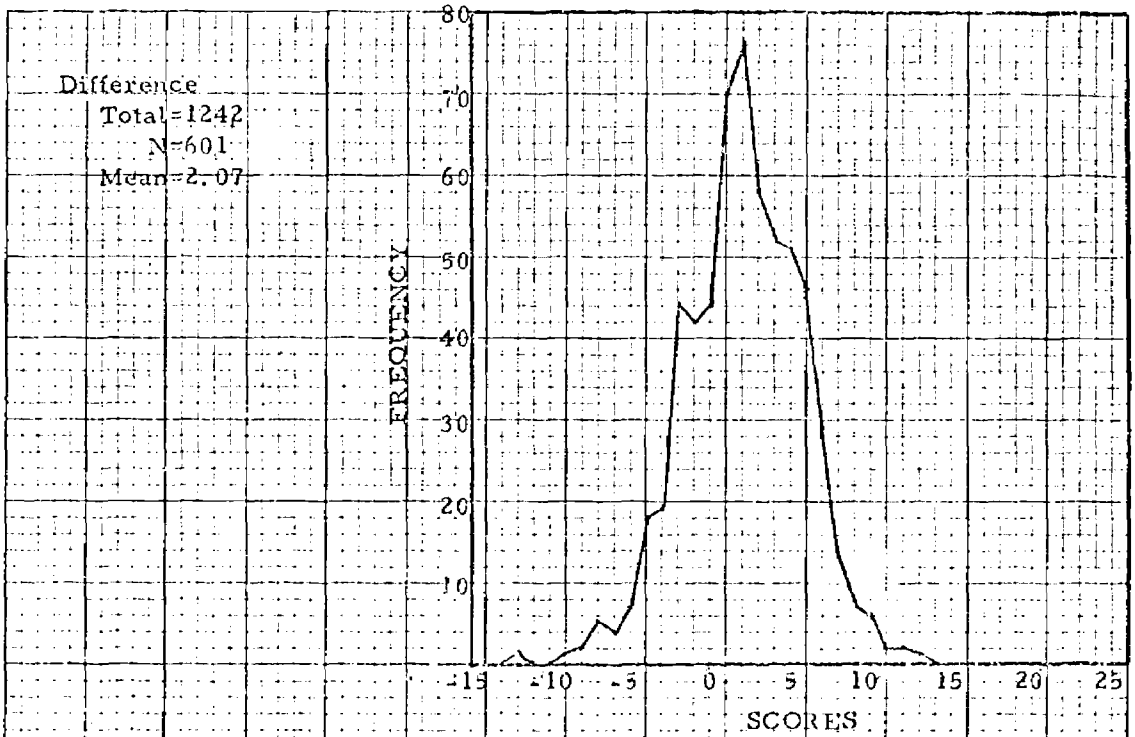

APPENDIX B

SUBJECTIVE EVIDENCE

I. SURVEY

The following survey was mailed to all teachers grades K-6 who had been involved in the Geography Project. Not all data for questions 4 and 6 through 9 is reported here; rather we have included those responses which seem typical.

1. "What grade levels have you taught during the past three years?" Number of responses per grade level is indicated.

Grade K	2	Grade 1	18	Grade 1-2	5
Grade 2	9	Grade 2-3	6	Grade 3	18
Grade 3-4	3	Grade 4	8	Grade 4-5	3
Grade 5	7	Grade 5-6	3	Grade 6	3
Several	4				

2. "For how many years have you been involved in the Geography Project?" Those teachers indicating 1/2 or none are either Grade 6 Pilot Study or new teachers entering midyear.

None 3 1/2 3 1 19 2 26 3 33 4 4

5 1

3. "How would you rate the Geography Project in comparison with your prior Social Studies Program?"

Superior 27 Better 35 About the Same 16

Partly Inferior 8 Inferior 3

4. "If you feel the program is inferior to your prior program, please indicate your reasons below." Sample responses from the 20 teachers who offered comments in this area are as follows:

   a. Not enough good pupil reading material available on their reading level. (4)

   b. Not enough pupil material on one specific area or in total program. (8)

   c. Motivation difficult due to uninteresting material. (6)

   d. Sharing materials with other teachers was frustrating. (1)

   e. Materials should be distributed on a 1-1 basis; one per child. (1)

   f. No significant difference between Geography and prior program. (1)

   g. "Program not appropriate to my children who are either disadvantaged or emotionally disturbed. They need subject matter of great relevance or vividness." (1)

h. "Not as interesting as the study of people." (1)

i. "Not enough physical activity for the children. Doesn't follow children's interests or concerns. Field trips not really of understandable value to a 6 year old." (1)

j. In-Service of "questionable value." (3)

k. Test instruments "discouraging and unfair." (1)

5. "If you feel the program is superior to your prior programs, please indicate your reasons below in rank order." Due to the unfortunate wording of this request, many teachers who had indicated Better in Question No. 3, failed to reply to this question. Indicated below are the number of times teachers selected the particular program component (i.e., three teachers ranked Pupil Materials as No. 1).

	1	2	3	4	5	6	7	8	No rank order indicated
Pupil materials	3	11	6	4	6	1	5	3	4
Program content	15	7	10	7	2	1	1	0	4
In-service	0	3	3	2	4	3	4	11	2
Teacher consultants	25	9	3	5	2	2	0	0	4
Teacher materials	5	11	7	11	6	3	2	0	7
Field study	3	8	10	3	7	9	3	0	6
Inquiry	4	1	2	0	1	6	9	6	3
Pupil motivation	4	2	7	4	5	6	3	1	3

6. "In what areas do you feel the program needs to be improved? Please be specific." Again, we have listed those responses which were the most common, and indicated the number of people making the response.

a. More pupil materials at the appropriate grade level. (30)

b. More teacher background material including "texts" and guides. (13)

c. Keep the consultants. (12)

d. Improved and appropriate evaluation, or no evaluation. (9)

e. Better In-Service in use of materials, methods of instruction and program content--especially for new teachers. (11)

f. More audio-visual aids. (7)

g. Make concepts and overall program design more appropriate to age/grade level. (5)

h. Better use of consultants. Perhaps a full week at a school so they can initiate and follow up a demonstration lesson. (3)

i. Make more relevant to disadvantaged. (2)

j. Specific behavioral objectives. (1)

k. More taped listening activities. (2)

l. Replace historical studies with contemporary problems. (1)

m. More copies of materials so we do not have to share. (5)

n. Curriculum designed specifically for combination grades. (1)

o. Sample lessons. (3)

p. "A text for every student." (2)

q. Concrete rather than abstract concepts at primary level. (2)

r. Workshops to make materials and share ideas. (2)

s. Too much covered. (1)

t. Not enough covered. (1)

7. "If you had your choice, would you return to your prior Social Studies program?"
Yes 11 No 51 Combine both 22 Not answered 5

"Why or why not?" Following are sample responses:

a. Yes--needs to be more relevant to today's problems. (4)

b. No--Geography program is more relevant to today's problems. "The dairy and bakery are naively simple for these space-age children." (16)

c. Yes--too much emphasis on Geography; not humanistic enough. (7)

d. No--Geography combines emphases on people and land. (2)

e. Yes--prior program easier to teach; textbook approach, better guides, etc. (8)

f. No--Geography program has much more motivation for both pupils and teachers. (12)

g. Yes--not enough reading and audio-visual material for pupils on this level. (5)

h. No--materials much more interesting, varied and on pupil level. (9)

i. Yes--children did not learn enough. (3)

j. No--children learned much more in Geography program. (8)

k. Yes--children need more structured program and less freedom; need to teach more facts. (2)

l. No--inquiry, individualized instruction and freedom much better for children--more "mind training" in complex cognitive processes. (13)

m. Yes--prior program much more interesting to students. (3)

n. No--Geography program much more interesting to students. (16)

o. No--children much more aware of environment. (6)

p. No--children are much more involved. (5)

q. No--children learn how to research, a skill they "will carry with them through their school years." (2)

r. No--more teacher interest in new program. (4)

s. Yes--prior program more organized. (2)

t. No--Geography program much more organized with specific objectives and outlined procedures to attain them. (3)

u. Yes--not enough teacher material. (2)

v. No--teacher material in Geography much better. (4)

w. "The success of any program depends on the teacher's attitude." (1)

x. "The geography program offers a much wider range of experiences for the children"--physical, cognitive, affective--especially Field Study. (6)

y. I would combine the Geography program with my own program. (7)

z. This program meets the needs of the pupils. (7)

8. "Has the Geography Project influenced your methods of teaching?"
Yes 52 No 17 Somewhat 9 Not answered 11

"If so, in what way?"

a. I now try to help children "discover" information rather than giving them so much input--use Inquiry as a major approach. Teaching now more oriented to making children "think, value making guesses, attack a problem, find many possible solutions." Emphasis on "how to think not what to think."

b. "I need more time to make materials for individualizing the study." (1)

c. Has helped me prepare more, gather useful materials and try new projects. (3)

d. Given me a wider background of information to help children. (7)

e. Make more concentrated effort to include geographic concepts and skills. (3)

f. More emphasis on observation of environment. (4)

g. Made me vary my teaching more, become more flexible. (4)

h. New areas of study. (2)

i. Allow children more freedom to experiment with new and exciting materials. (2)

j. Use more small group and individualized activities. (6)

k. Use more discussion. (3)

l. "I'm trying to do less talking, more listening." (1)

m. Less formal lessons. (1)

n. More pupil involvement in their own learning. (2)

o. "I have learned to act as a 'research director' rather than a lecturer." (1)

p. "I think my students feel happy with themselves for what they've been able to contribute to discussions. They are less reluctant to back off if I ask 'why?' 'How can you be sure'? There's a stronger 'study workshop' feeling." (1)

q. "Everything in some way influences my teaching." (1)

r. "It's more fun to teach when children are eager to learn. The new content and materials stimulate learning. There is more freedom to explore ideas in depth when the interest is high." (1)

9. "What influence, if any, has the Geography Project had on your students? In other words, in what ways are the students who have participated in this program different from those students who were involved in prior programs"?

a. Children loved the program. (4)

b. Children have more awareness and understanding of the environment. (22)

c. Children relate more what they are learning in school to what they are experiencing outside of school. (4)

d. Children have better idea of history and more appreciation of the "good things" available today. (3)

e. Better use of wider variety of tools; better skills. (7)

f. Greater understanding of peoples and problems of the world. (8)

g. Less interest and enthusiasm. (2)

h. More interest and enthusiasm. (13)

i. "There is no objective way to measure this." (1)

j. Children better able to investigate on their own. (3)

k. Inquiry-oriented learning is "fun for many students; others feel uncomfortable without a 'pat' or definitely 'right' answer." (1)

l. Children developed Inquiry and problem-solving skills. (19)

m. Great improvement in vocabulary and oral expression. (5)

n. More confident in expressing their ideas; no threat implied with "wrong" answer as all are accepted. (3)

o. No change observed. (4)

p. "They are trying to relate their learning to the problems of their time, i.e., erosion, pollution, minority cultures." (6)

q. "I think they are better social scientists with this approach!" (1)

r. They are more capable of working independently. (4)

s. More student participation and involvement. (3)

t. More pupil motivation. (6)

u. Better able to work in groups. (4)

v. No basis for comparison as have never taught any other social studies program. Difficult to assess at this time. (10)

w. They are beginning to ask more thoughtful questions. (3)

x. More cary-over to other academic areas. (3)

y. Great benefit from Field Study. (6)

z. Better listeners. (1)

aa. "Parents were very enthused with this program." (1)

bb. "Better understanding of relationships"--people to land, people to people, etc. (5)

cc. "More aware of why things are where they are." (1)

10. Some additional comments of interest follow:

a. There were many "free" comments on the value of the Teacher Consultants: "The program would have been impossible without the Teacher Consultants' help." "They were great!" "Students were highly motivated by the Teacher Consultants." "They were so cooperative and helpful." "KEEP THE TC'S!" "They should be kept at the expense of other things." (26)

b. "I believe the use of materials that are concrete (i.e., stream table, relief and contour maps) plus the inquiry approach is the only way children really learn."

c. "You give me an hour of pupil-free time and I'll fill this out. I've report cards, cumes, evaluation sheets and reading forms, etc., etc., etc." (Most of the teachers who felt this way just didn't bother.)

d. "In order to assess this program, I have only to compare those children who have been involved to those who come to us from other schools. The children in the Geography project seem to retain and transfer more information about their environment. They use more comparisons in their speech and seem more aware and more curious."

e. "The program has been exciting to me in two major respects: the opening of a free mind to explore an idea rather than 'read to find out...' and the slow but steady growth shown in the ability to reason things out and function either independently or in groups without the teacher guiding each step."

f. "Dr. Logan's class was of great help." Another teacher classified it as "a waste of time."

g. "Children share more, verbally, what happens on weekends, where they went (particularly if we have studied it), what they see on TV, etc." (2)

h. "We never seem to have enough time."

i. "I just administered the tests. Some materials were placed in my box." This young man refused all offers of assistance from the Teacher Consultant.

j. "The feeling expressed by some of the teachers was that the program came suddenly and the human element was overlooked. We don't become 'experts' in the field of geography because Santa Monica initiated a project. Therefore, initially at least, the program would not be as effective as previous programs."

k. "I feel that the program was very beneficial to my first grade class. It is an excellent, well-organized exciting project. I could see my children grasp the concepts and engage in real inquiry learning. (The Teacher Consultant) was great. She brought numerous materials and her 'sample' lessons were very helpful...I have analyzed many (social studies) programs...In my opinion it is superior to any we could possibly use here in Santa Monica. I only hope we will be able to continue it in the future."

II. SUBJECTIVE EVIDENCE FROM TEACHER CONSULTANTS

In this section we have taken the Behavioral Objectives (see Addendum, 1969-70 Project Proposal) and asked the Teacher Consultants to describe actual incidents or general findings which show achievement of these objectives. An all-inclusive listing would be prohibitive; therefore, we selected those which seemed most typical.

A. Behavioral Objectives Related to Inquiry. (For this section the observed incidents will be chronicled with the letter of the specific objective indicated in parentheses following the portion of the lesson to which it applies.)

1. Objectives

   a. To recognize/generate problems

   b. To recognize/generate theories

   c. To use appropriate data sources

   d. To evaluate theories according to evidence from data

   e. To refine theories

   f. To test theories

   g. To predict consequences of theories

   h. To select future courses of action

   i. To accept, reject or "table" theories

2. Typical Inquiry Lesson--Grade One: Given a box of unidentified buildings (actually models of their school plant), the children emptied them out on a table and generated their own problem: How can we find out what these buildings are? (a)

   Several theories were advanced: (b)
   They are factories because factories have lots of windows.
   They are the school because that looks like the building our room is in.
   They are a city because there are lots of buildings.

   The group in most classes decided to see if this were really a model of the school. In order to do this, they generally took the models with them as they checked various parts of buildings, i.e.,

how many doors, windows in each building; how many buildings; where were they located, etc. (c)

Upon return to class, most of the children agreed that this was indeed the model of the school. (Those children who did not agree were encouraged to check out their own theories.) (d)

They then proceeded to arrange the buildings so that the entire school was replicated. In order to do this, they had to check the school plant itself several times. (e)

Upon completion of the model, the children took it with them on a walk throughout the plant to make sure the model approximated the real buildings. (f)

In order for a model to be of any use, the students decided that it had to work; so they used it to show a new pupil how to get from one place to another, or invited someone who had never been to their school to visit their classroom. (g)

They then decided that this model was too bulky to use in the future, so they made a map of the model. This would be replicated and new pupils in the future would be able to find their way around the school with this tool. (h and i)

3. Typical Inquiry Lesson--Grade Two: This particular lesson was not preplanned by the teacher, but occurred as a result of pupil observation of a discrepant event. In a study of the petroleum industry, the children had wondered if oil really floated on top of water and what happened to any solid materials that might be involved. They set up an experiment in which marbles, water and oil were placed into a jar, a lid tightly fastened, and the contents shaken. When the children rechecked the jar the next day, they found that the oil had become cloudy, and a problem was formulated: Why did the oil become cloudy? (a)

Several theories were advanced: (b)
Air inside the jar could not escape and that did it.
It's because we shook it.
The sun shining on it caused it.
The marbles made it cloudy.
The cold room at night does it.

They decided to check some authorities (gas station man, a geologist, the Union Oil Company at the Los Angeles Harbor) to see if they could help them. (c)

Unfortunately, no direct help was received, and none of their theories

was either acceptable or rejectable. Each of the authorities suggested that some foreign matter might have gotten into the jar, such as soap. (d and e)

The students then decided to conduct a series of controlled experiments to see if they could refine any of their theories. (f)

They left out the marbles in one jar, used a light-proof container in another, did not shake another, washed jars thoroughly without soap, etc. Throughout the setting up of these experiments, they discussed thoroughly the possible outcomes of the variables. (g)

Still no conclusion was reached, so still other experiments were devised: (h)
Leave off the lid and do the same thing.
Don't jiggle the jar at all.
Get a different kind of oil.
Check the room temperature during the day.

At the conculsion of the round of experiments, all hypotheses were rejected, except the probability of the intrusion of some unknown foreign matter. Thus no real "closure" was achieved. (i)

4. Typical Inquiry Lesson--Grade Three: The children were working with the terrain model of the Los Angeles Basin. The question was raised as to which mountain was the highest. (a)

Children made three different choices but could not agree on one "correct" answer. (b)

They then decided to see if there were a way to find out "for sure." Several data sources were suggested, including a contour map, highway maps, air photos and an atlas. (c)

They then decided to figure the problem out for themselves before going to the appropriate data source, trying several approaches: (f)
Invert the terrain model and sight along the edge.
Invert the terrain model and fill the holes with water; then measure the water.
Invert the terrain model, fill the holes with clay, cut the clay "mountains" in half, measure with a ruler.
Suspend string above models, cut where it touches mountains, compare lengths of string.
Suspend ruler between mountains, using level to determine tilt.

The students decided that some of the above theories would not work, i.e., the mountains were different in their "bulk," so that the water

volume would be different even if they were all the same height. (g)

Having agreed on one mountain as "probably" being the tallest (d) the students then decided to turn to the aforementioned data sources to verify their theory (h) and found that their selection was correct (i), thus reaching closure.

An interesting by-product of this lesson was the realization by the students that the most efficient method of finding an answer was to research available data; experimentation, though more fun, was reasonable only when the data was not available.

5. Typical Inquiry Lesson--Grade Four: Students in several classes became concerned about the problems of erosion in the Malibu area, and the question of "How do you keep houses from sliding down onto the Pacific Coast Highway?" was raised. (a)

Several possible solutions were offered: (b)
Put houses on pilings.
Build a big wall.
Level the hill.
Plant stuff on the hillsides.
Move the houses.

The students decided they needed some information, so they made pertinent inquiry of several sources including a land surveyor, county planning commission, engineers, and various printed sources including newspapers, books and magazines. (c)

Several theories were discarded as a result of the inquiries: (d)
The wall would collapse with the weight of the dirt unless something was done to drain off water.
Often the plants slid down the hillside too.
Can't level the hill because it costs too much and besides people want a view.
Moving the houses is also impractical.

The students decided that some of the theories needed modification: (e)
Build a wall with drainage under it.
Try planting stuff with real long roots.

They then used the stream table to see if they could try out some of the theories and made several excursions into the field to see areas where experiments were being or had been conducted in the field (f), predicting future consequences of various techniques. (g)

As a result of the above, the students decided that they would continue

to experiment with different plans and to keep track of the real experiments along the coastline.

Most groups reached the following tentative conculsion: Probably the best solution was a combination of planting with long-rooted plants, retaining walls and some system of water drainage. They further decided that future building in virgin areas must be a carefully engineered project to prevent slippage, taking into consideration such factors as reducing the slope of hills to the nonerosive angle, planting, terracing by cutting back only (not cutting the back and building up the front), analyzing the substratum, etc. (i)

6. Typical Inquiry Lesson--Grade Five: The students were studying the Age of Colonization and engaged in the question, "If I were going to found a city in the New World, where would I want to build it?" (a)

Several variables were suggested and each student selected a site: (b)
Close to a protected harbor so that supplies could come in by ship.
On high ground away from the dampness and for protection.
Close to a fresh water supply.
On the northern part of the continent because it's closer to Europe.
In the southern part because it's warmer.

The students then researched their particular area to determine its suitability, using several resources: (c)
A relief map of North America
Filmstrips showing the physical environment of the region
Historical maps and etchings
A transparency series of North America
Logs of early settlers
Weather reports

Several sites were selected which had all of the selected variables of harbor, fresh water, safety; others were rejected for various reasons. (d)

They further decided that the weather might be too cold in the north and too hot in the south; perhaps someplace in between might be best. (e)

They then returned to the data to try to determine one best location for a city in the middle part of the coast. (f)

Several potential sites were discarded as students predicted troubles such as flooding, insects, etc. (g)

The students finally selected three sites which met all the criteria (i) and proceeded to plan cities on those sites. (h)

B. Behavioral Objectives Related to Understanding of the Natural Environment.

1. To sequence natural phenomena (i.e., earthquakes, glaciation, erosion, diastrophism) according to historical records and observable clues.

Most grade three and four classes worked with the stream tables in setting up investigations which replicated the phenomena occurring in nature, including the stream cycle, slumping, earthquakes, erosion, development of shorelines and the building of alluvial fans and deltas. Because of these studies, the students could then go into the field, observe phenomena and theorize as to the causes and sequential development of various topographic features.

Students analyzed phenomena of Australia (grade five) and the characteristics of all the continents (grade six) on the basis of what they had learned in prior grades.

2. To analyze the effect of natural events upon the physical environment.

Again using the stream table, grade three and four students replicated real life situations. For instance, students in one class constructed a hillside, placed houses on top of the bluff, and then ran a river along the base of the slope to observe stream erosion and subsequent slumping. Another class was interested in seeing what would happen in various topographic situations (flat land, hilly land, terraced land, etc.) if an earthquake caused an abrupt uplift. Still other groups diverted and dammed streams, caused rain storms, created artesian wells by raising water tables, and many other situations. In each case the particular investigation either arose from a problem they had encountered in the field or led to a field study excursion. Thus, students were constantly replicating nature on a smaller scale and in much more rapid time sequence.

At all other grade levels, children analyzed the particular environment under study, looking at the physical totality which includes those changes created by natural events.

3. To understand the relationships between landform, climate, natural and introduced vegetation, bodies of water, native animal life and all other aspects of the physical environment.

At all levels, some attention was paid to environmental interrelationships; beginning in grade three the program focuses strongly on the physical environment. Most third grade classes charted the vegetation associations of the Los Angeles Basin with their related animal life, along with the topographic and climatic controls on this distribution. They also engaged in a similar study of the ocean. Fourth graders analyzed the environment

of California during all phases of its development, fifth graders the United States, and sixth graders selected areas throughout the world.

In all classes where these relationships were emphasized, students increased awareness of their environment, of the importance of maintaining balances within nature and of the critical role people can play in maintaining or destroying these balances.

4. To understand the principles of ecology.

As stated in (3) above, students beginning in third grade analyzed the physical environments of the various regions under study, their ecological balances, and the influences of man upon these environments. Grade three and four students were made particularly aware of pollution when the Audubon Center, which they had visited, was forced to close due to the killing effect of the polluted air. All children in the Malibu area particularly, were involved in discussing the sewage disposal plant along Malibu Creek and the effect of its pollution on the creek, on Tapia Park, on the "fresh" water systems, and on the ocean. Several classes at various grade levels visited the local tidepools and learned of the effects of "over-studying" this delicately balanced environment. We had many, many reports from citizens of the area about our students' concern that the tidepool life might disappear completely if people did not take care.

Throughout all grade levels, ecology became a major topic of discussion. Newspaper articles were brought to class, television programs thoroughly debated; and in several cases, students undertook positive actions to help conserve their environment.

5. To understand the effects of natural events upon ecology.

Fortunately for our students, if extremely unfortunate for the environment, several natural events intruded upon the ecological balance of various environments during the past year, providing excellent bases for discussions. Among these were the Santa Barbara oil slick, the fire and resultant flooding in Malibu, and the constant landslides. Students also examined the changes in various environments in the past by studying the visible effects of prior historical events, such as the terraces on Palos Verdes Penninsula (evidence of various levels of the ocean), the deposition of thousands of feet of alluvium on the Los Angeles Basin (evidenced by the strata exposed in road cuts), and the uplift of the Santa Monica Mountains (evidenced both by the ocean fossils found at some height and by the tilted sandstone beds).

6. To apply concepts gained through analysis of immediate environments to analysis of environments removed in time and/or space.

By the end of grade two, most students had a basic understanding of those concepts involved in the preceding items. They were then capable of applying these concepts to analysis of the environments of Greece in grade three, of Japan and the Ocean in grade four, of the regions of the United States in grade five, and of selected regions throughout the world in grade six. Most children understand the basic principles and effects of erosion and deposition, of diastrophism, of ecology, of climate, and of man's relationships with and effect upon his environment.

C. Behavioral Objectives Related to Understanding of Cultural Environments.

1. To understand the interrelationships of man and land.

This is one of the major concepts underlying the project and thus is incorporated at all grade levels, from the grade one program in which students study the man/land relationships of their immediate environment to grade six, where they look at various cultures inhabiting very different environments. At all levels, students understand to some degree the effect man has on his environment and the influences which the environments have on man. In no way has the project advocated the passe concept of Environmental Determinism; rather, students have studied thoroughly the various interrelationships between man and land, the restraints the environment places on man and the ways man has either overcome or adapted to these restraints.

2. To apply the principles of land utilization to unfamiliar regions.

Beginning with grade three, students at all levels apply the knowledge gained in prior studies of immediate environments to analyses of environments removed in time and/or space. Of special note here are those studies which involve historical time: third graders study land use by the various sequent occupants of the Los Angeles Basin (Indians, missions, Pobladores, rancheros and today), analyzing their use of the environment in terms of housing, agriculture (if any), food and the making of tools. They gather data about these periods using primary resources (artifacts, historical records) whenever possible and then making inferences from these and secondary resources concerning the way of life of the particular culture under examination. The importance of these studies and those of succeeding grade levels is that the students are involved in gathering their own data and making their own inferences based on these data, rather than "reading about" or "listening to the teacher talk about" the cultures. Teachers have found upper grade children who have been trained in this process far more capable of engaging in historical inquiry.

3. To compare various land utilization systems.

Again, this is a basic skill incorporated at all levels. Students in grade one compare land use in various regions of a city (residential, commercial, industrial, recreational), third graders compare Greece and California, fifth graders compare various regions throughout the United States, etc. Whenever possible, students analyze the area as it is (or was) being utilized and hypothesize as to how this land should be used more effectively or efficiently. For instance, in studying the agricultural patterns of Greece, students not only discovered that the one-family farm of Greece was not nearly as efficient or productive as modern California techniques, but they also realized that California hillsides were not being utilized at all. They further wondered why Californians typically used good, rich bottomlands for cities, forcing the agriculture farther and farther from the markets, instead of saving these areas for agriculture and building the cities on less productive land.

4. To synthesize commonalities of various land utilization systems.

By fourth grade most students recognize that the use of land by a particular people at a particular time depended upon many factors: the nature of the land, the level of cultural development of the people, their needs and their traditions, and that very few commonalities actually exist between peoples at various levels of technological developments. However, peoples do use land in accordance with their known needs; as long as a people do not specialize they need only to feed, clothe and house themselves. As soon as cities develop and people move from subsistance agriculture toward specialization, then systems of surplus production must be developed. Children soon recognized that agriculture, industry, trade and level of cultural sophistication were all interrelated.

5. To evaluate man's manipulation of the geographic environment.

Again, this concept is incorporated throughout the program. Third graders study the proposed Palmdale Airport and its potential effect upon the environment (traffic, air and noise pollution, increased population, etc.). Fourth graders are involved in analyzing the Feather River Water Project, the increased population of Southern California necessitating the increased importation of water, the relative costs of this project versus others (such as sea water conversion), the effect of removal of this water from the north, etc. Primary grade students study the effects of clearing unstable land for housing tracts, of imbalances in nature caused by new freeways through mountains and by rerouting of waterways, and of pollution of the environment and its effect on all life. Most of our students are tremendously aware of the rapid depletion of our resources including air and water; we can only hope that this will lead to an increased

sense of responsibility in the future generations.

6. To predict the consequences of selected human acts upon the geographic environment.

   In classes where students have been deeply involved in environmental analyses, children are constantly involved with the question, "What happens if....?" They are concerned that more population means more pollution, that more cities mean less land available to feed more people, that unwise use of land means destruction of resources and that many of man's acts which mean a more comfortable life today may mean no usable environment tomorrow. Specific examples have been discussed elsewhere.

7. To understand the historic differentiation of various selected cultures.

   Beginning in grade three, as has been noted, students analyze various cultures removed in time and or space. They study the nature of these cultures, their history, religion, mores, technology, economy, government, etc. In all cases, they are concerned with the ways cultures are similar and/or dissimilar and the causes of these similarities or differences. Care is taken at all times to avoid judgment on the "goodness" or "badness" of the ways people live; rather we are concerned with the "whys" and the ways people could learn to use their resources to the optimum benefit of the most number of people.

8. To understand the political, economical and sociological structures of various selected cultures.

   See item (7) preceding.

D. Behavioral Objectives Related to Symbolic Representation. These objectives were measured in district-produced tests I, II, and III. This section will therefore be devoted to a sampling of related activities which took place in various classrooms.

1. To translate nonverbal phenomena (i.e., topography, water, cultural features) to symbolic representations (i.e., maps, models, globes, and graphs).

   Children at all levels made their own maps of various regions: first graders mapped their city and/or created imaginary cities; third graders mapped the Los Angeles Basin, generally adding cultural features of their own choosing; fourth graders mapped California, including such variables as topography, climate, vegetation, historical occupance, transportation routes, land use patterns, etc. In most

cases, these various types of maps were child designed and child produced.

2. To apply map skills from one media to another (i.e., floor maps to desk maps, terrain models to contour maps).

   Many tools were developed to assist children with transfer of mapping skills. First graders progressed from models to pictorial maps to aerial photographs; third and fourth graders constructed three-dimensional terrain models from two-dimensional contour maps and vice versa; and fifth graders tried to replicate voyages of exploration on a blank world map. Most children by the end of fourth grade had very little difficulty understanding and working with maps of all types and levels of sophistication.

3. To understand the principles underlying the necessity for symbolic representation.

   First graders rapidly discovered the value of two-dimensional maps after trying to carry the scale models of their neighborhood and Central Business District out into the field. Children at all levels voluntarily made maps of all kinds because, as one child said, "They're easier to use; I can put down anything I need to remember."

4. To recognize map symbols.

   Students at all levels learn to make legends to correspond with their maps in order that others can understand the maps. They all realize that a map is valuable only if it is readable.

5. To utilize map symbols in constructing and interpreting a map.

   In addition to the preceding, students evidenced their ability to use map symbols by transferring flat maps to contour maps and vice versa, by interpreting maps of unfamiliar regions and by reading many varied kinds of maps.

6. To understand principles of graphing.

   One fourth grade class made graphs comparing rainfall in California and Japan; several others graphed the population growth of California. Several second grade classes charted the imports and exports of the Los Angeles Harbor, and numerous fifth grade classes graphed population growth, expansion, reports, etc., of the New World.

7. To classify features shown on an aerial photograph according to a set of predetermined criteria.

   See Objective Evidence, Test II--Aerial Photograph Analysis.

8. To synthesize regional commonalities from an aerial photograph.

   See Objective Evidence, Test II--Aerial Photograph Analysis.

9. To locate, according to a coodinate map system, cultural and physical features.

   Early in the project we discovered that young children had little or no space consciousness. In drawing a picture of the way they walked to school, many would describe the trip as follows: "I leave the house and walk to Lincoln, then I turn the corner and walk to Montana, and then I turn into the school"--all the while drawing a straight line. Project personnel designed an overlay system in which the local neighborhood was depicted. The base layer showed only the school; succeeding layers added the various coordinates (the blue house on the corner) and streets joining these coordinates one at a time until the "grid system" was fully pictured. Children were then asked to draw a line to show how they would "walk" from school to the green house, from the green house to the drug store, etc. This skill was soon transferred to individual desk maps and then to air photographs and measured by district-produced test 1--Coordinates (see Part I, Objective Evidence preceding). In succeeding grades, children used various kinds of coordinate grid systems to locate specific items with much more success than prior students who had not been exposed to this basic instruction.

E. Behavioral Objectives Related to Regional Analysis.

Again, these concepts and skills form the basis of the program and are incorporated into all grade levels. Therefore, we would like to outline the objectives and then give some concrete examples of regional analysis at several of the grade levels. Reference might also be made to district-produced tests II, III and IV in the preceding section (Part I--Objective Evidence).

1. Objectives

   a. To identify the elements of a given area

   b. To identify the cultural and physical patterns of a given area

   c. To classify these elements into discrete regions

   d. To understand the principles for differentiating regions

   e. To apply the principles of regional analysis to unfamiliar regions

   f. To compare and contrast regions

2. Examples

a. Grade one students begin by walking through their local residential neighborhood and noting the types of structures and other features found there. (a)

Soon they realize that some areas have single-family houses only, some multiple only, and some a mixture; that the streets are generally narrow; that there are no businesses; and that there is a school and perhaps a library or a park. (b)

They then realize that the area ends at a street or a corner cluster of businesses (c), and that both of these areas have very different patterns and functions. (d)

After thoroughly analyzing the local commercial area, they decide that they can't buy everything they need there and that there must be another area. This leads to a trip to the Central Business District where they evolve a new definition of a different, less known region. (e)

They then proceed to other areas throughout the city, defining and delimiting each in the terms of its regional criteria (often qualifying the criteria as new data is collected), until a definite concept of "cityness" evolves. (f)

b. Grade two students visit their own local Santa Monica Harbor, noting its physical and cultural features (a), and its pattern. (b)

They recognize several different sections of the harbor (c), each of which has a different function. (d)

By this time they have formulated a concept of "harbor," only to radically alter this concept when faced with the tremendous complexity of the Los Angeles Harbor with many more regions and functions. (e and f)

They also analyze a third harbor, Marina del Rey, which again has different functions and a very different pattern. By the end of second grade, students have a very good idea of the varying meanings of "harbor."

c. The grade three program incorporates many different regional studies. In looking at landform, vegetation and human occupance, the students generally begin with the natural features of the coastal sage association along the Southern California coastline (a), group these features into landform and vegetation patterns (b), and

establish boundary line criteria. (c)

They then identify those elements of this area which made it productive for aboriginal man (d), and compare it with the other vegetation associations of the area (e and f), both in terms of their natural features and of their usability to man.

Other regional studies include climate, modern land use, and a comparative study of Greece.

d. Grade four students begin their study of California by analyzing in depth the elements and patterns of the Los Angeles Basin (a and b), and Southern California, identifying those features which set this area apart from adjacent areas. (c)

They recognize that land use, population distribution and many other features make this region unique. (d)

They then proceed through the other regions of the state, in each case analyzing physical and cultural components (e), and comparing each new region with each region previously studied. (f)

They also engage in comparative studies of Japan and the Ocean.

e. Grade five students follow a similar procedure, reviewing California and comparing and contrasting the far Western States with all other regions of the United States; in addition, they engage in a comparative study of Australia.

f. The entire grade six program is a study of various climatic regions throughout the world. In the program, students compare and contrast regions emphasizing first the physical components of a specific region and then analyzing the ways various cultures live within the area.

APPENDIX C

GRADE LEVEL CONCEPTS AND ELEMENTS

CONCEPTS AND ELEMENTS

The following concepts and elements form the basis of the Geography program.

REGION - A region is an area with a certain homogeneity, differing in some way from surrounding regions and thus forming its own pattern.

a. In each area the unique content of geographic elements such as people, landforms, climates, cities, ways of working, customs, beliefs, and their spatial arrangement creates a unique geography.

b. The earth can be divided into geographic regions, based on these differentiating criteria which help the student organize and structure many elements into manageable portions and to arrive at geographic generalizations.

c. The present character of a region is partly devised from conditions that existed and events that occurred in times past.

d. Culture regions have developed out of the long continued appraisal and human occupance of uniquely endowed segments of the earth.

e. A region may be of any size depending on the delimiting criteria.

f. A region may be subdivided into sub-regions; many regions may be combined into a large "super region."

PATTERN - All features, natural and cultural, form their own unique pattern on the land.

a. These patterns may be reduced in scale with no loss of accuracy as long as location, relative size and shape remain constant.

b. No two regions of the earth are alike in the patterns they form.

c. Each area, regardless of type or pattern, fits spatially and functionally into the world-wide distribution of the separate geographic units.

d. Each region may be analyzed in the terms of its pattern.

e. Aerial photographs, scale models and maps of various types are used to analyze or to illustrate regional pattern.

PLACE - All features of the earth may be located specifically either by their relationships to other known features or by their exact location in relationship to certain fixed points on the globe.

a. Place establishes the "whereness" in terms of the "what" under study or examination.

b. A phenomenon is locatable because it is specific and a single or multiple entity.

c. The feature to be located can be defined physically and has character of some kind.

d. All communities are located at particular distances and directions from other communities.

LAND USE - Man's use of the land is dependent upon his level of technology, cultural and religious traits, customs and mores, needs, and the available resources.

a. The usability of an area is affected by its location with respect to the surrounding physical features, natural resources, transportation routes, manpower, markets, climate, etc.

b. People in different occupations such as mining, fishing, and farming use the earth in different ways.

c. People's economic well-being, development and sometimes their survival have been based on their appraisal and use of the land.

d. All living things use air, water and food from the earth; they differ in the way they use these resources.

e. Use of earth, space or materials must be in terms of the culture of the society. Peoples with similar cultures may use similarly endowed earth spaces in vastly different ways. The technology and culture of a people often are in conflict.

CHANGE - All living and non-living things are undergoing constant change, influenced by forces within and without the organism, both natural and man-made.

a. To a great extent, man has learned to control and/or adapt to his environment.

b. Imbalances in nature may be caused by natural phenomena or man.

c. Man has altered many elements of his environment - each of these changes influences other elements.

d. Effects of change are seldom predictable.

e. Change is inevitable and constant.

f. Anything new in an area, no matter how small, changes the area.

g. Many things affect the rate of change; the level of the culture, the technological advances, the amount and form of communication within and without the culture, mobility of the population, the natural resources of the environment, the religion and mores of the culture, the cultural heritage, political structure, law, etc.

INTERRELATIONSHIPS - Basic to the study of geography is the nature of the interrelationships of land and water forms, climate, natural vegetation, native animal life, drainage, soil, mineral resources; their effect on man, and man's attempt to modify them.

a. Interdependence - each living organism is dependent for its existence on other living and non-living organisms.

b. Each individual place or area on earth is related to other places on the earth in terms of size, direction, distance, and time.

c. The physical elements of the earth are a unit, and no part can be understood fully except in terms of its relationship to the whole. Neither can man himself be fully understood except in terms of his relationship to his physical environment.

FUNCTION - A regional study is concerned with the role played by the various components within the area, and with the roles played by other influencing regions.

a. Each person in a culture has a role to play; these roles often change as other factors change; each individual's role is vital to the existence of other individuals, companies, groups, etc.

b. Each zone of a city has a unique function and plays a vital role in the geographic totality of the city.

c. The roles of various groups within a community are important to the consideration of the nature of a community.

d. As ideas and technologies change, the functions of communities and of elements within communities change and give rise to problems which must be studied and solved.

DIVISION OF LABOR - Each person in a society specializes in a specific task or tasks resulting in greater speed and efficiency and a greater output of product.

a. The more advanced the level of technology and culture, the greater the specialization.

b. Trade presupposes specialization.

c. Members of a family specialize.

d. The more specialized a society, the greater the interdependence.

e. As technology changes, jobs become obsolete and retraining must occur.

MARKET ECONOMY - The United States is based on market economy, the elements of which are private enterprise, profit, income, demand and supply, prices and competition.

a. A change in one of these elements influences others.

b. Some members of a society are producers - all are consumers.

c. Trade exists when two or more cultures each develop a surplus of a commodity needed by the other culture.

d. The sophistication of the trade conducted by a given society depends on its level of technology and culture.

e. The economy of any one nation can greatly influence the international economic balance.

DISTRIBUTION OF POPULATION - The population of a region depends largely upon its resources, climate, location, function, level of technology, availability of power and water, access to other regions, human resources and desirability as a "good place to live."

a. Heavily populated regions generally have an abundance of these characteristics.

b. Very few people live in areas characterized by extremes--deserts, mountains, tundra, jungle, etc.

c. A city is composed of a large population, specialized regions (residential, commercial, industrial, governmental, recreational, etc.) and a large degree of self-sufficiency.

d. Towns, villages, hamlets and settlements differ from the above in their population and degree of specialized regions.

NATURAL RESOURCES - Natural resources are those things that exist in the natural environment, or those things indigenous to a region.

a. The resources are of value in direct proportion to their usefulness, desirability and availability to the inhabitants, and to the cultural and technological level of the population.

b. The natural assets differ vastly from area to area.

c. Climate is influenced by topography, proximity to large bodies of water or desert, and global placement.

d. The value of a soil depends upon its elements, availability of water, and desired use.

e. There is great interdependence between the flora and fauna and among the climate, landforms, soil, water and human population of a region.

f. Many of the natural resources of this planet are being wasted and/or exhausted by man.

GOVERNMENT - Man from his earliest beginnings has established rules by which he governed himself and a hierarchy to enforce those rules.

a. The political units and their governments function with respect to each other and in keeping with their location on earth.

b. The function of law in various cultures must be considered as well as those individuals and institutions determining and enforcing the law.

c. There are definite roles and responsibilities of a citizen in a democracy; "freedom" generates responsibility.

d. Many forms of government have existed in the past. Each of the political structures existing in the world today has grown out of the past, is greatly influenced by the cultures extant in the nation, and depends for its survival on its ability to adapt to the changing world.

e. Political ties are forms of geographic linkage and may be related to and change with the goods and services exchanged.

CULTURE - Culture is the totality of the mores, technology and traits of a given group of people at a given time.

a. The specific culture of a people is influenced by their level of technology, contact with other people, mores and religion, natural resources, freedom to innovate, historical background, and mobility.

b. The more advanced a society, the more complex its structure.

c. As people's ideas and technologies change, their ways of living and their use of the geographic elements also change.

d. Appraisal and use of a particular areal association of "natural" earth features by a particular people with a particular culture results in a unique "geographic landscape" which differs from place to place as peoples and cultures differ.

e. Various groups of people have developed social institutions suited to their needs and have met the problems encountered in developing their respective cultures and civilization (historical perspective) in various ways.

f. A "culture" of a given people has grown slowly; any attempt to radically and rapidly alter the basic structure of a culture leads to a period of confusion and often to revolution and anarchy.

GRADE KINDERGARTEN

REGION: Local Neighborhood--Home, Residential Area, School

ELEMENTS

Relationships -
- Child/parents/home
- Home/neighborhood
- Home/school
- Home/church
- Neighborhood/school
- Areas within school
- Transportation Patterns
  - school and neighborhood

Changes -
- Varying responsibilities
- Working, playing and living with other children and adults

Patterns of Distribution -
- "Patterns" of single-family dwellings
- "Patterns" of multiple-family dwellings
- "Patterns" of neighborhood
- "Patterns" of school

Land Use -
- Individual houses on small lots; yards; garages; secondary roads
- Apartments on larger lots, several families in one building
- Schools on large lots; playgrounds
- Homes used as places to live, work, and play
- Schools used as centers of learning

Functions -
- Roles of family members
- Function of the home
- Role of the school and its various personnel
- Living, working playing, going to school

MATERIALS

- Field trips
  - Local residential
  - Areas within the school
- Scale models
  - Local residential
  - School
- Practice maps
  - Local residential
  - School
- Slides
  - Local residential
- Tapes
- "Read Aloud" books
- Study prints
- Flannel boards
  - Individual
  - Pupil and teacher
- Accessories

GRADE ONE

REGION: City of Santa Monica, Residential--School, Single-Family Dwellings Multiple-Family Dwellings, Church, Parks, Transportation Patterns

ELEMENTS

Relationships -
- Child/parents/home
- Home/school
- Home/church
- Home/parks
- Terrain/land use
- Transportation patterns/ land use

Changes -
- Changing responsibilities as children grow
- Single-family residential areas to multiple
- Old areas torn down; new built
- Empty lots built up
- Expected future changes
- Job opportunities created by change
- Use of resources in change
- Mobile population

Patterns of Distribution -
- Large areas of residential separated by string commercial areas
- Different zones in a school (administrative, classrooms, transportation, recreation)

Land Use -
- Individual buildings on small lots; trees; yards; garages; secondary roads
- Schools on large lots; playgrounds
- Both rental and ownership
- Multiple housing - high density
- Single family - low density
- Value determined by desirability

Functions -
- Roles of family members
- Role of the home
- Role of the school and its various personnel
- Living, working, playing, going to school, visiting, riding bicycles

MATERIALS

Field trips
- Local residential

Scale models
- Local residential

Air photos
- Local residential

Acetate overlays
- Local residential coordinates

Terrain models
- Santa Monica
- Malibu region (Malibu schools only)

Practice maps
- Local residential

Slides
- Local residential

Tapes

Books

Study prints

Flannel boards
- Individual pupil and teacher

Grouping practice sheets

Accessories

REGION: City of Santa Monica, Commercial--Neighborhood; String; Central Business District, Core, Secondary, Tertiary

ELEMENTS

Relationships -
- Home/neighborhood shopping center
- Home/string commercial
- Home/CBD
- Neighborhood shopping center/CBD
- Core/secondary/tertiary areas
- Traffic pattern/ form of zone

Changes -
- The new mall; new businesses
- Shopping centers on city perifery
- Effect of freeway
- Constant changes in both neighborhood and string

Patterns of Distribution -
- String commercial along busy arterial roads
- CBD in large cluster centrally located
- Different services and goods in different zones and in different areas of CBD
- Neighborhood - small cluster

Land Use -
- Ownership, rental, leasing
- CBD compact in core, parking areas in secondary and tertiary, small buildings in core, larger in perifery
- String commercial parking lots adjacent to individual businesses, small to large buildings

Functions -
- Buying, selling, trade, work, service, retail; filling the needs of people for food and clothing

MATERIALS

Field trips
- Local commercial
- Comparative commercial
- CBD

Scale models
- Local commercial
- CBD

Air photos
- Local commercial
- Comparable commercial
- CBD

Transparencies
- Local commercial
- CBD

Practice maps
- Local commercial
- CBD

Slides
- Local commercial
- Comparable commercial
- CBD
- Mall construction

Tapes

Books

Study prints

Grouping practice sheets

Accessories

REGION: City of Santa Monica, Industrial--Factories, Storage Facilities, Transportation of Goods by Truck and Rail

ELEMENTS

Relationships -
- Industry/commercial/residence
- Supply/demand
- Source/production/consumer
- Transportation patterns/industry

Changes -
- Depletion of raw materials
- Construction in Santa Monica
- Air-space industry
- Freeway influence

Patterns of Distribution -
- Large area along railroad
- Located on outskirts of city

Land Use -
- Large factories, warehouses
- Open tracts for storage, parking, expansion, machinery, quarries

Functions -
- Production, distribution, transportation, maintenance, and disposal, wholesale, think factories, import, export, construction

MATERIALS

Field trip
- Local industrial

Scale model
- Local industrial

Air photos
- Local industrial

Flo-chart
- Higgins Brick

Practice maps
- Local industrial

Tapes

Books

Study prints

Slides
- Higgins Brickyard
- Freeway construction
- Douglas Aircraft
- Trains
- S. M. Maintenance Yards
  - Trash disposal
  - Street maintenance
- Accessories

REGION: Los Angeles Basin, Santa Monica Harbor, Marina del Rey, Los Angeles Harbor--Transportation of people and goods, Recreation, Commerce, Maintenance, Services, Industry, Residential

ELEMENTS

Relationships -
- SM Harbor/Intermediate Harbors/ LA Harbor
- Transportation routes SM/LA Harbor
- Areas within harbors
- Products/areas in harbors/ transportation
- Type of ship/cargo carried
- Landform/harbors/transportation
- Natural resources/use/production

Changes -
- Needed changes Santa Monica Harbor
- Growth in Marina del Rey
- Within LA Harbor--new wharves, growth, Vincent Thomas Bridge
- Production techniques - i.e., oil industry

Patterns of Distribution -
- Pattern of LA Harbor with open water, large warehouses, docks, oil wells, refineries, large storage yards, shipbuilding, etc./ contrast with patterns local harbors.
- Railroads feeding in from LA Basin, Branching in harbor
- Patterns of ship channels and right-of-way
- Lighthouses

Land Use -
- Large buildings, warehouses, docks, open areas, streets, railroads, waterways, recreation, residential

Functions -
- Transportation, shipping, production, refining, packaging, living, maintenance, fishing, buying and selling, US Navy, shipbuilding, ship repairs, waste disposal, etc.

MATERIALS

Acetate overlays
- LA Harbor
  - Location
  - Transportation
  - Patterns and zones

Field trips
- Santa Monica Harbor
- Marina del Rey
- LA Harbor

Slides and filmstrips
- SM Harbor
- Marina del Rey
- LA Harbor
  - Lumber
  - Fishing
  - Boats
  - Shipbuilding
  - Maintenance
  - Oil
  - History
  - Terminals
- Intermediate Harbors

Motion films
Air photos
Special pupil books
Accessories
Pupil practice maps
Tapes and study prints

REGION: Los Angeles Basin, Concrete Industry--Cement, Colton; Sand and Gravel, San Fernando and San Gabriel Valleys; Transportation of Goods

ELEMENTS

Relationships -
- Natural Resources/mining/refining/shipping/transportation routes/consumer
- Location of Redi-Mix plants/transportation/cities
- Location of terminals/terrain/transportation routes

Changes -
- Depletion of natural resources
- Encroaching urbanization, effect on land use, need for materials, need for agricultural land
- Automation

Patterns of Distribution -
- Quarries near base of mountains where streams suddenly attain "grade"
- Transportation patterns
  - Parallel population patterns

Land Use -
- Open pits--mining, flood control
- Parks, playgrounds, housing developments
- Garbage disposal in worked-out quarries
- Large accumulations of stored materials
- Streets, freeways, highways, railroad right-of-way, airport runways

Functions -
- Mining, refining, mixing flood-control
- Meeting, needs for streets, houses, pools, bridges, dams, etc.
- Movement of people and goods
- Maintenance

MATERIALS

Acetate overlays
- Location
- Landform

Field trips
- Sand and gravel
- Mix plant

Terrain model
- Los Angeles Basin

Slides and filmstrips
- Sand and gravel, cement
  - Mining
  - Refining
  - Location
  - Landform
  - Distribution
- Use of concrete
  - Freeway
  - The Mall
  - Houses
- Egg production
- Railroads
- Airports
- Etc.

REGION: City of Santa Monica (Review), Residential, Commercial, Industrial--Communications, General Telephone; Civic Center (new), Santa Monica Government, County Services, Local Services, Municipal Auditorium

ELEMENTS

Relationships -
- Review city as total urban complex--relationships of each zone to others and to whole city
- Douglas Aircraft/airport/Santa Monica/neighboring cities
- Natural resources/industry/transportation/consumer, freeways, railroads
- Telephone/communication lines/maintenance/home
- Government/officials/voter/law

Changes -
- Urbanization--effect on agriculture, transportation, communication, land use, etc.
- Zone restrictions and change
- Tax revenues--change in Douglas activities
- New water system
- New Civic Center
- Effect of ocean wave action, breakwater and pier on shore line

Patterns of Distribution -
- City-wide patterns--zones, transportation, freeways, airport, railroad, etc.

Land Use -
- City planning and zoning - causeway
- Transportation needs
- Causes for differences in land use in different areas
- Land value and land use
- Future land use problems

Functions -
- Satisfaction of human needs for food, clothing, shelter, government, entertainment, etc.
- Production, consumption, service, maintenance

MATERIALS

Acetate overlays
- Santa Monica as urban complex

Telephone kits

Scale model
- Santa Monica Civic Center

Field trips
- SM Civic Center
- General Telephone Company

Slides and filmstrips
- SM Civic Center
- Lumber Industry
- Telephone Company
- Water Department
- Parks
- Airport
- Railroad
- Water System change

Air photos

Accessories

Books

Pupil practice maps

Flo-charts

Tapes

Study prints

GRADE THREE

REGION: City of Santa Monica, Residential, Commercial, Industrial, Administrative

ELEMENTS

Relationships -
- School/neighborhood
- Neighborhood/city
- Zonal patterns/city
- Santa Monica/Los Angeles Basin
- LA Basin/globe

Changes -
- New Mall and freeway

Patterns of Distribution -
- Patterns of zones within entire city

Land Use -
- Differences in land use in relation to function

Functions -
- Discuss functions of city as a whole and in its parts

MATERIALS

Field trip
- Trip through typical zones

Acetate overlays
- City including local residential, commercial, etc.

Air photos
- Typical zones
- City entirety

Grouping practice sheets of zones and of entire city

REGION: Los Angeles Basin, Geographic Totality--Landform, Soils, Minerals, Drainage, Climate, Desert, Shore; Natural Vegetation; Native Animal Life; Seaforms, Sealife

ELEMENTS

Relationships -
- Landform/climate/vegetation/native animal life, etc.
- Climate/erosion
- Sea/erosion

Changes -
- Introduce by "erasing" man's alteration of natural landscape
- Erosion by sea, wind, water
- Rain cycle
- Climatic differences
- Zonation of vegetation and animal life

Patterns of Distribution -
- Landform
- Vegetation
- Soils and minerals
- Climate
- Native animal life
- Sea life

Land Use -
- Discuss as potential

Functions -
- Discuss as potential

MATERIALS

Terrain model
- LA Basin

Erosion model

Typical landform model

Transparencies
- Landform
- Vegetation
- Soils
- Drainage
- Climate

Charts
- Landform effect on climate
- Rain cycle
- Climates and seasons

Charts
- Earth rotation and climate
- Erosion

Field trips
- Los Angeles City Hall to see LA Basin
- Santa Monica Mountains, fossil area, etc.

Study prints

Photographs

Pupil prepared booklets

Slides and filmstrips

Tapes

Books

REGION: Sequence Occupance, Indians--Chumash, Coastal, Inland; Gabrielino; Desert

ELEMENTS

Relationships -
- Geographic totality/form of existence/ tools/homes/food/travel/trade
- Level of culture/use of land

Changes -
- Effect of any new event or product
- Question why Indians changed little

Patterns of Distribution -
- Very small villages
- Near water source
- Some migration
- Scattered villages

Land Use -
- Used land as it was
- Food, clothing, shelter, tools, very little adapted
- Did not change land

Functions -
- Bare sustenence from and on the land

MATERIALS

Field trips
- Indian site
- Southwest Museum and Casa de Adobe

Acetate overlays
- Indian settlements

Terrain model
Maps and globe
Study prints
Slides and filmstrips
Books - i.e., Tobi
Photographs
Artifacts
Motion films

REGION: Sequence Occupance, Explorers, Missionaries, Pobledores, Rancheros

ELEMENTS

Relationships -
- Level of culture/mobility/tools/technology/use of land
- Explorers/Indians
- Missionaries/Indians
- Pobledores/Missions
- Rancheros/Missions
- Pobledores/Gold Rush
- Settlement patterns/landform/climate/vegetation, etc.

Changes -
- Effect of each succeeding occupant on the preceding culture
- Change in products and land use of different cultures
- Effect of increasing level of technology
- Increasing knowledge of world due to explorations
- Changes in "style of living"
- Change from nomadic living to eventual urban living
- Changes wrought by Gold Rush

Patterns of Distribution -
- Settlement patterns of each culture
- Growth of transportation patterns
- Crop growing patterns

Land Use -
- Comparison of land use of each culture

Functions -
- Comparisons of various functions within each culture including settlement, individuals, tools, etc.

MATERIALS

Scale models
- Mission
- Pueblo
- Ranchero

Field trips
- Site of Pueblo de Los Angeles
- LA County Museum

Acetate overlays
- Sequence Occupance
- Settlement Patterns
- Crop Distribution

Photographs--historic
Study prints
Commercial slides or filmstrips
Motion films
Pupil-prepared booklets
Books
Tapes
Accessories

REGION: Growth of Los Angeles and Santa Monica, Residential, Commercial, Industrial, Transportation, Agricultural

ELEMENTS

Relationships -
- Harbor/growth of Santa Monica
- Santa Monica/Los Angeles
- Railroad/growth
- LA Harbor/growth
- Politics/location of harbor
- Trolleys/growth of Santa Monica

Changes -
- Effects of railroad, harbor, trolleys, settlement, politics, technology
- Growth of area from pueblo to modern metropolis

Land Use -
- Changes in land use from early subsistance agricultural society to one primarily dependent on imports of foodstuffs, using land mainly for living, business, industry, and transportation

Functions -
- Function of the area at different periods
- Modern day functions including government, entertainment, etc.

MATERIALS

Scale models
- Historical and modern LA
- Historical and modern Santa Monica

Field trips
- Civic Center
- LA and Santa Monica
- Olvera Street

Acetate overlays
- Growth of cities
- Zones within LA

Photographs
- Growth of LA and Santa Monica
- General history including railroad, harbors, etc.

Study prints
Commercial slides or filmstrips
Motion films
Books
Pupil-prepared booklets
Tapes
Accessories

REGION: Greece

ELEMENTS

Relationships -
- Compare Greece with LA Basin in terms of landform, climate, vegetation, drainage, seaforms
- Landform and location/products and the way people make a living
- Greece--early culture development/ position in Mediterranean trade route
- LA Basin--late cultural development/ isolation
- Query as to why our culture is advancing and theirs is declining--what are the relationships
- Form of culture/growth

Changes -
- Effect on natural vegetation by man and nature
- Man's attempts to alter the land to meet his needs
- Effect of expansion of Old World on importance of Greece
- Fall from position of "world" power--why
- Effect of erosion

Patterns of Distribution -
- Patterns of settlement, landform, vegetation, products
- Location in Mediterranean Sea Islands

Land Use -
- Agriculture, sheep-raising, fishing, urban settlement, harbors--shipping, trade
- Much land unsuitable for anything
- Little changed for years

Functions -
- Trade, agriculture, sustinence, relationships with other European countries, etc.

MATERIALS

Terrain model
Acetate overlays
- Settlement
- Landform
- Vegetation
- Drainage
- Mediterranean trade routes
- Products

Photographs
Study prints
Maps including desk maps
Commercial slides and filmstrips
Motion films
Books
Resource persons
Artifacts
Tapes

NOTE: The country of Greece has been selected for a comparative study in the third grade due to its geographic similarities to the Southern California area and the contrasting land-use patterns and history.

GRADE FOUR

REGION: California Before Man--Landforms (Los Angeles Basin, Santa Monica Mountains, Deserts, Coastal Plain, Coast Ranges, Great Central Valley, Sierras, Eastern Dry Lands)

ELEMENTS

Relationships -
- Ocean/climate of coast/vegetation/native animal life/drainage/erosion/sea life
- Mountains/climate/vegetation/desert/drainage/erosion
- Desert/vegetation/animal life/climate/erosion
- Rivers/climate/landform/vegetation/native animal life/resources
- Great Central Valley/rivers/potential use/climate/vegetation/drainage/coast
- Sierras/vertical zonation/desert/drainage/erosion/glaciation/natural resources/Great Central Valley/Eastern dry lands
- Los Angeles Basin/California/United States/Pacific Ocean/South America/World

Changes -
- Erosion of running water, wind, ice including glaciation
- Areas--basically unchanged by man

Patterns of Distribution -
- Natural features such as landform, climate, vegetation, drainage, soils and minerals, natural resources, native and animal life, sea life

Land Use -
- Discuss as potential for agriculture, transportation, mining, urban, rural, suburban, industry, recreation, etc.

Functions -
- Discuss all of man's potential activities on the land, how he will have to adapt his environment to meet his needs, the natural phenomena which may prevent man's full control of his environment

MATERIALS

Terrain Models
- California landforms
- Typical landforms in larger scale

Transparencies
- Landform
- Climate
- Vegetation
- Natural resources
- Drainage

Field Trips
- Desert and mountains
- Overnight

Study Prints
Charts
Photographs
Books
Filmstrips and Slides
Motion Films
Artifacts
Maps and Globes
- Desk and wall

Tapes

REGION: California Sequence Occupance--Indians, Explorers, Pobladores, Missions, Rancheros, Yankees, Gold Rush, Annexation

ELEMENTS

Relationships -
- Isolation/discovery/settlement
- Each occupant's effect on each other
- Effect of Gold Rush on desirability of settlement
- Settlement pattern/function
- Mexico/California/United States
- Resources/settlement
- Landform/settlement
- Culture/level of technology/trade size of population/interchange with other cultures/mores/ government, etc.

Changes -
- Growth of population
- Destruction of population (Indians)
- Changes in land use
- Changes in vegetation due to changes in agriculture
- Transportation
- Effect of early mining techniques on land

Patterns of Distribution -
- Distribution of each of the various cultures
- Types of communities and how they were laid out
- Location of communities and why they grew where they did

Land Use -
- Differences in land use by various cultures

Functions -
- What functions each of the various physical and cultural features played in each of the different cultures

MATERIALS

Terrain Model
- California

Transparencies
- Settlement pattern
- Transportation routes--change
- Agriculture--growth and change
- Mining
- Industry
- Harbors
- Political boundaries

Field Trips
- Los Angeles County Museum

Study Prints
Charts
Photographs
Books
Filmstrips and Slides
Motion Films
Artifacts
Maps and Globes
Tapes

REGION: Modern California--Residential, Commercial, Industrial, Administrative, Recreational, Agricultural, Geographic Totality

ELEMENTS

Relationships -
- Size of population/landforms/water sources/transportation/natural resources/trade/climate/soil/political divisions
- Government/public/ officials/local/county/state/national
- Residential/commercial/industrial/political/recreational

Changes -
- Freeways
- Agriculture
- Population growth
- Future planning
- Depletion of resources
- Flood control
- Man's effect on natural vegetation
- Settlement patterns
- Effect of advancing technology and mechanization
- Transportation

Patterns of Distribution -
- Population
- Agriculture
- Industrial
- Political
- Natural vegetation remaining
- Transportation

Land Use -
- All of man's activities on the land

Functions -
- Roles of various physical and cultural features

MATERIALS

Terrain Model
- California

Transparencies
- Settlement patterns
- Transportation
- Agriculture
- Mining
- Industry
- Harbors
- Political boundaries

Field Trips
- Limonera Orange Grove and Packing Company in Ventura

Study Prints
Charts
Photographs
Books
Filmstrips and Slides
Motion Films
Artifacts
Maps and Globes
Tapes

REGION: Japan, Comparative Study--Geography -Physical (Global Location, Islands, Mainland China, Mountains, Plains, Climatic Zones, Vegetation)

ELEMENTS

Relationships -
- Japan/ ocean/China/Americas/globe
- Climate/ocean/currents/landforms
- Vegetation/climate/topography
- Rivers/climate/topography/deltas/ erosion

Changes -
- Climate and weather throughout the year
- Erosion and its effects

Patterns of Distribution -
- Identification and location of major landforms
- Vegetation patterns
- Climatic patterns
- Ocean currents
- Raw materials--minerals, fish, lumber, etc.

Land Use -
- Discuss as potential use by man
- Resources, climate, transportation, urban location, etc.

Functions -
- Discuss as potential--possible functions of man in this environment

MATERIALS

Terrain Model
- Japan

Maps and Globes
- Desk and wall

Topographic Globe

Transparencies
- Landform
- Climate
- Vegetation
- Natural Resources
- Drainage

Study Prints

Books

Filmstrips and Slides

Motion Films

Tapes

REGION: Japan, Historical Development--Prehistoric Man, Early Civilizations, Discovery by Western Civilization, Conquest and Settlement, Island Differences, World War II, Japan Today

ELEMENTS

Relationships -
- Man/topography/resources/climate/water and land barriers
- Each succeeding conqueror on preceding culture
- Japan/neighbors/world
- Economics/manpower/resources/technology/demand
- Government/local/national

Changes -
- Effect of man on land
- Effect of technology on economics
- Effect of twentieth century on culture

Patterns of Distribution -
- Changes in population distribution through history
- Location and distribution of major urban centers, farming regions, transportation routes, etc.

Land Use -
- Land use by various cultures historically
- Land use today for agricultural, industrial, residential, commercial, recreational, and governmental uses

Functions -
- How did man function in this environment?
- How does man function today in this environment?

MATERIALS

- Terrain Model
  - Japan
- Transparencies
- Field Trip
  - "Little Tokyo" in Los Angeles
- Maps and Globes
- Study Prints
- Books
- Filmstrips and Slides
- Motion Films
- Artifacts
- Tapes

REGION: The Sea, Contrasting Environment--Landforms (Under the ocean off the California Coast including mountains, valleys, plains, etc.), Currents, Vertical Zonation (Plants and Animals), Climate, Use by Man Today, Potential Use by Man

ELEMENTS

Relationships -
- Plant/animal
- Between animals
- Organisms/depth of water/pressure/oxygen
- Landform/currents/littoral drift/erosion
- Man/organisms of the sea/the sea itself

Changes -
- Effect of various breakwaters, sewage disposal, fishing, etc.
- Growing technology in use of products from the sea

Patterns of Distribution -
- Vertical zonation of plant and animal life
- Location of major fishing grounds and reasons
- Effects of changes on distribution of sealife

Land Use -
- How does man use this environment today?
- What are some potential uses for the future?
- How must man conserve this resource?

Functions -
- What are the functions of various forms of sealife in sustaining other life?
- What are the functions of the various anatomical features of sealife?
- What would man have to do to function in this environment?

MATERIALS

Hydrographic Relief Globe
Nautical Charts
Field Trips
- Tide pools at Point Dume
- Tuna cannery at San Pedro

Study Prints
Books
Filmstrips and Slides
Motion Films

GRADE FIVE

REGION: The Known World, 1400--Centers of Civilization, Level of Technology (Modes of Transportation, Communication, Living Conditions), Barriers to Exploration

ELEMENTS

Relationships -
- Modes of transportation/settled areas/level of technology/land and water barriers
- Standard of living/level of technology/trade/population/economic structure/governmental structure
- Superstitions, myths and fears/amount of knowledge/unknown realms beyond known world

Changes -
- Effects of explorations by Marco Polo and others
- Effects of inventions

Patterns of Distribution -
- Location of centers of population and causes
- Location of sparsely populated regions and causes
- Patterns of Old World

Land Use -
- Major uses of land including agriculture, residential, commercial, recreational
- Proportional uses of land

Functions -
- The role of man in the world of the 1400's including those in government, the rich vs. the very poor, those who worked with the land, etc.
- The role of the Church

MATERIALS

Maps and Globes
- Known world 1400
- Topographic globe
- Atlas

Transparency
- Known world 1400 with trade routes

Pupil Booklet
Tapes
Books
Study Prints
Films and Filmstrips
Motion Film

REGION: The Age of Exploration--Prince Henry to Vizcaino (1400-1602)

ELEMENTS

(This period of history is to be approached as one of an ever-widening sphere of discovery; as man's attack upon the natural barriers of land and water, and the manmade barriers of ignorance, superstition, and fear.)

Relationships -
- Known world/unknown world
- New discoveries/changes in "world maps"/incentive to explore/knowledge
- Man/nature
- Economics/exploration
- Inventions/necessity/increased safety and comfort

Changes -
- Changes wrought by new discoveries including emigration to new lands, new foods, increasing knowledge, etc.
- Changes wrought by new inventions

Patterns of Distribution -
- Growth in population distribution from 1400-1540
- Products discovered
- Land and water barriers
- Patterns of native settlements

Land Use -
- Use of land by natives encountered on explorations
- Potential use discovered by explorers including natural resources

Functions -
- Function of various people involved with explorers including financiers, sailors, soldiers, etc.

MATERIALS

Maps and Globes
- Historic maps
- Topographic globe
- Atlas

Transparency
- Widening world
- Routes of exploration

Ship Models
Pupil Booklets
Tapes
Books
Study Prints
Films and Filmstrips

(Note: When periods overlap, chronological development is to be followed.)

REGION: The Age of Colonization--Mexico City to Los Angeles (1325-1781)

ELEMENTS

Relationships -
- Colonists/natives/resources
- Colonial way of life/conditions of New World
- Colonies/home country

Changes -
- Those changes in home countries caused by discoveries
- Changes in way of living in New World
- Changes in natives caused by colonists
- Economic changes caused by discoveries

Patterns of Distribution -
- Growth in population distribution, both colonists and natives, from 1325-1781
- Settlement patterns in New World--colonies, cities, missions, etc.

Land Use -
- Use of land by natives
- Use of land by settlers

Functions -
- Roles of individual members of settlements

MATERIALS

Maps and Globes
- World expansion
- U.S. settlement
- Topographic globe
- Raised relief U.S.
- Pupil desk maps
- Atlas

Transparency
- World expansion
- U.S. settlement

Pupil Booklets
Tapes
Books
Study Prints
Films and Filmstrips
Population Charts

REGION: A Nation is Born and Grows, 1776-1967--Continental Congress, Declaration of Independence, Revolutionary War, Constitution, Territorial Acquisitions, Westward Movement, Civil War, Electronic Age, Atomic Age

ELEMENTS
(Each element is to be examined within each subregion.)

Relationships -
- U.S./World
- Within nation
- Among peoples
- Technology/standard of living/new inventions
- Economics/exploration/settlements

Changes -
- Governmental structure
- Economic structure
- Territorial acquisitions
- Standards of living
- Land utilization
- Effect of electricity and other discoveries
- Effect of inventions
- Trade
- Rate of change--knowledge explosion

Patterns of Distribution -
- Population
- Natural resources
- Physical geography
- Transportation routes

Land Use -
- Relationship to resources
- Cultural influence
- Technology
- Ratio of population

Functions -
- Roles of men in various periods, locations, and professions
- Function of governments

MATERIALS
Maps and Globes
- Historic U.S.
- Political U.S.
- Raised relief U.S.
- Atlas

Transparency
- Territorial expansion
- Routes of transportation

Pupil Books
Tapes
Books
Study Prints
Films and Filmstrips

REGION: Australia, Comparative Study--Geography-Physical (Global Location, Neighbors, Topography, Climate, Vegetation), Historical (Settlement, Growth, Effect of Technology), Modern (Compare with U.S.)

ELEMENTS

- Australia/global placement/climate/landforms/vegetation/animal life/man's way of life/comparisons and contrasts with U.S.
- Availability of water/settlement/land use/irrigation
- Government/England

Changes -

- Australian growth from settlement to the present
- Technology
- Position in world

Patterns of Distribution -

- Population, physical geography, global location, resources, water--compared with U.S.

Land Use -

- Agricultural, transportation, residential, commercial, industrial, recreational--compared with U.S.
- Aboriginal
- Projected changes

Functions -

- Similarities and differences in way of life

MATERIALS

Maps and Globes
- Australia--physical
- Australia--political
- Australia--historical
- Atlas

Charts and Graphs
- Comparative
  - Cultural
  - Physical

Transparency
- Australia
  - Physical
  - Cultural
  - Agriculture
  - Resources
  - Population
  - Political

Pupil Booklet
Tapes
Books
Study Prints
Films and Filmstrips

GRADE SIX

CLIMATIC REGIONS OF THE WORLD: Mediterranean--Greece (Review), California (Review)*

ELEMENTS

Relationships -
- Climate/global placement/continental relationship/topography
- Way of life/environment/technology/location/culture/trade
- Government/level of culture/religions

Changes -
- Cultural evolution: how this culture has been affected and how it has reacted
- Historical: past conquerors or invaders or "guests" which have left their mark

Patterns of Distribution -
- World wide climatic patterns
- World wide population distribution
- World wide political divisions

Land Use -
- Use of land by various cultures
- Changes in land use patterns
- Projected and/or needed changes

Functions -
- How does man function within various cultures?
- Why are there so many cultural variations?

MATERIALS

Maps and Globes
- World topographic globe
- Climatic
- Major landforms
- Population
- Vegetation
- Agriculture
- Landform models

Field Trips
Stream Table
Transparencies
- Continents
- Climatic regions
- Population distribution

Motion Films
Filmstrips
Books
Tapes
Study Prints
Data Bank

*Due to the nature of the Sixth Grade Program, the format has been changed. The following lists the Climatic Regions of the World and possible cultures to be studied within each region. The elements and materials would be covered within each region and culture as listed in the outline. In addition, constant comparisons would be made between cultures and between the regions under study.

REGION: Tropical Rainforest and Savanna--The Amazon, Java, Malaya, Singapore

REGION: Desert and Steppe--Sudan (Savanna to Steppe), Sahara, American Desert

REGION: Monsoon--Japan (Review), India, Philippines (Range of Cultures)

REGION: Continental--Northeast United States (Indian to Modern)

REGION: Polar and Subarctic--Greenland, Antartica

REGION: Mountains--California Sierra Nevada, Norway (Lapps and Transhumance), Andes

ELEMENTS	MATERIALS
Repeat for each region as previously outlined	Repeat for each region as previously outlined

APPENDIX D

GEOGRAPHY MATERIALS LIST

GEOGRAPHY MATERIALS AND EQUIPMENT LIST

General Usage Grades K-6

Ocean Floor Relief Globe - Denoyer-Geppert - 1 per school
Super 8 Cartridge Projector - Technicolor - 1 per school
Filmstrip Projector - Graflex - 1-2 per school
Listening Station - Audiotronics - 1-2 per school
Tape Recorder - Wollensak - 1-2 per school
Super 8 Movie Camera and Tripod - Bell and Howell - 1 in district
Filmstrip File - staff - 1 per school
Discussion Pictures - Harper and Row - 1 set in district
Teacher Guides:
- Concepts and Elements, General - staff - 1 per teacher K-6
- Individual Regions at each grade level - staff - 1-6 per teacher K-6
- Scope and Sequence, each grade level - staff - 1 per teacher K-6
- I Am an Inquirer, suggested Inquiry lessons at each grade level - staff - 1 per teacher K-6
- Independent and Small Group Activities - staff - 1 per teacher 1-6
- Field Study, each grade level - staff - 1 per teacher 1-6
- Geography/State Science Text Correlation, each grade level - staff - 1 per teacher 1-5
- Geography/Instructional Media Correlation, each grade level - staff - 1 per teacher K-6

Where Shall We Go This Weekend, parent field study guide - staff - 1 per family K-6
Teacher Background Information Booklets - Dr. Logan and staff:
- Nature of Geography - 1 per teacher 1-6
- Landforms of the Los Angeles Area - 1 per teacher 1-6
- Winter Climate of Santa Monica - 1 per teacher 1-6
- Summer Climate of Santa Monica - 1 per teacher 1-6
- Vegetation of the Santa Monica Area - 1 per teacher 1-6
- Land Use Patterns - 1 per teacher 1-6

Map Skills Transparencies, sets 1 and 2 - Hammond - IMC

Kindergarten

Doll House - staff - 1 per class
Readiness Kit (Signs of Our Times) - Gunter - 1-2 per school
Filmstrips:
- Animal Babies - Society of Visual Education - 1 per school
- Farm Animals - Society of Visual Education - 1 per school
- Large Zoo Animals - Society of Visual Education - 1 per school
- Pets - Society of Visual Education - 1 per school

Study Prints, sets:
- A Family at Work and Play - Society of Visual Education - 1 per school
- Dairy Helpers - Society of Visual Education - 1 per school
- Pets - Society of Visual Education - 1 per school
- School Friends and Helpers - Society of Visual Education - 1 per school
- Wild Animals - Society of Visual Education - 1 per school
- Zoo Animals - Society of Visual Education - 1 per school
- Farm and Ranch Animals - Society of Visual Education - 1 per school

Terrain Model, Santa Monica - staff - 1 per class
Terrain Model, Pt. Dume area - 1 per class, Malibu schools; 1 per school, city
Floor Maps and Models:
- Local Neighborhood - staff - 1 per class
- Central Business District - staff - 1 per class
- Industrial Zone - staff - 1 per class

Desk Maps:
- Individual Schools - staff - 50-100 per class
- Local Neighborhood - staff - 50-100 per class
- Central Business District - staff - 50-100 per class
- Industrial Zone - staff - 50-100 per class
- Malibu Mountains - staff - 50-100 per class
- Santa Monica - staff - 50 per class

Aerial Photographs (Oralid):
- Local Neighborhood - staff - 15 per class
- Central Business District - staff - 15 per class
- Industrial Zone - staff - 15 per class
- Malibu Mountains - staff - 15 per class, Malibu schools; 1 per class, city
- Miscellaneous Regions - staff - 10 per class
- Santa Monica - staff - 1 per class

Folders for aerial photographs - staff - 15 per class
Photograph, Aerial, Santa Monica - Chamber of Commerce - 1 per class
Santa Monica Builds a Mall, Newspaper - Evening Outlook - 1 per class
Telephones, Historical Photographs - General Telephone - 1 set per school
Filmstrips (Commercial):
- Community Helpers, Sets 1 and 2 - McGraw Hill - 1 per school
- The School Community - Encyclopedia Britannica - 1 per school

Filmstrips and Scripts (District Produced):
- Santa Monica Maintenance Yards, Parts I and II - staff - 1 per school

Motion Films:
- A City and Its People - Film Associates - 2 in district
- Finding Your Way to School Safely - Film Associates - 2 in district

Study Prints, sets:
- Fire Department Helpers - Society of Visual Education - 1 per school
- Hospital Helpers - Society of Visual Education - 1 per school
- How People Travel in the City - Society of Visual Education - 1 per school
- Keeping the City Clean and Beautiful - Society of Visual Education - 1 per school
- Moving Goods for People in the City - Society of Visual Education - 1 per school
- Neighborhood Friends and Helpers -Society of Visual Education - 1 per school
- Police Department Helpers - Society of Visual Education - 1 per school
- Postal Helpers - Society of Visual Education - 1 per school
- Supermarket Helpers - Society of Visual Education - 1 per school
- Community Helpers (2 sets) - Society of Visual Education - 1 per school

Pupil/Teacher Background, booklets/papers:
- What is Camera Obscura - staff - 1 per teacher
- Grouping Practice Sheets - staff - 50 per class
- Several papers on Inquiry - staff - 1 per teacher
- Supplement: Independent Activities book - staff - 1 per teacher

Acetate Overlay, Local Neighborhood - staff - 1 per class

Grade Two

Terrain Model, Los Angeles Basin - staff - 1 per class
Terrain Model, Malibu Mountains - staff - 1 per class, Malibu; 1 per school, city
Desk Maps:
- Los Angeles Harbor - staff - 50 per class
- Los Angeles Harbor - Harbor Commission - 1 per class
- Marina del Rey - staff - 50 per class
- Marina del Rey - Harbor Department - 1 per class

Floor Map and Models, Santa Monica Civic Center - staff - 1 per class
Aerial Photographs (Ozalid):
- Santa Monica Airport - staff - 1 per school
- Los Angeles Harbor (2) - staff - 2 per class
- Los Angeles Basin - staff - 2 per class

Transparency Series, Transportation Patterns, Los Angeles Basin - staff - 1 per school
Realia:
- Oil Kit - Standard Oil - 1 per school
- Samples of Borate Minerals - United States Borax - 1 set per class
- Samples of Iron Ore - Kaiser Industries - several per class
- Samples of Processed Car - Mr. Shapiro - 1 per class

Wall Map, Los Angeles Basin - Gunter - 1 per school
Sand and Gravel Flow Chart - staff - 1 per class
Pupil/Teacher Background, booklets/papers:
- Geography of the Los Angeles Area - El Rancho - 1 per class
- The Story of Lumber - staff - 10 per class
- Highway Practices - Highway Department - 1 per teacher
- Colton Portland Cement Company - staff - 1 per teacher
- Sand and Gravel Industry - staff - 1 per teacher
- Marina del Rey, outline - staff - 1 per teacher
- An Experiment With Grunion Eggs - Pasadena Schools - 1 per teacher
- Bus Trip to the Los Angeles Harbor - staff - 1 per teacher
- Explanation of the Plimsoll Mark - Los Angeles Harbor - 1 per teacher
- Pupil Books and Tapes, Los Angeles Harbor Fire Department - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, Los Angeles Harbor, Sun Lumber - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, Los Angeles Harbor, Petroleum - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, Los Angeles Harbor, Iron - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, Los Angeles Harbor, Borax - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, The Santa Monica Harbor - staff - 15 per class, books; 1 per school, tapes
- Pupil Books and Tapes, The Marina del Rey - staff - 15 per class, books; 1 per school, tapes
- Fire Frogs - Los Angeles Times - 15 per class

Filmstrips (Commercial):
- Local Government - Encyclopedia Britannica - 1 per school
- Municipal Government - Encyclopedia Britannica - 1 per school
- People and Goods Travel (series) - Handy - 1 per school
- The Harbor (series) - Telesound - 1 per school
- The Los Angeles Basin (series) - Budek - 1 per school

Grade Two (continued)

Motion Films:
- Learning About Your State from the Road Map - Wexler - 2 in district
- Our City Government - Film Associates - 2 in district

Book - How to Read a City Map - Elk Grove - 1 per class

Filmstrips (District), scripts and tapes, 1 per school:
- The Los Angeles Harbor
  - Boat Trip
  - Bulkloader
  - Borax Industry
  - Scrap Iron Industry
  - General Review
  - Lumber
- The Concrete Industry

Grade Three

Wall Maps:
- Los Angeles Basin (also Grade 2) - Gunter - 2 per school
- Greece - Denoyer-Geppert (special order) - 1 per class

Stream Table - Denoyer-Geppert or SRA - 1-3 per school

Historical Maps:
- Gabrielino Indians - Southwest Museum - 1 per class
- Missions of California - Equitable Savings and Loan - 1 per class
- Pueblo of Los Angeles - Department of Water and Power - 1 per class

Floor Maps and Models:
- Historical Santa Monica (2 periods) - staff - 1 per school
- Historical Los Angeles (2 periods) - staff - 1 per school
- Landform Model - Hubbard - 1 per school

Realia:
- Rocks and Minerals of the Los Angeles Basin (kit) - staff - 1 per class
- Rabbit Skin - Bryants Taxidermy Studio - 1 per school
- Greek Realia - staff - 1 set per school

Historical Photographs:
- Santa Monica (36 Photos) - staff - 1 set per school
- Los Angeles (38 photos) - staff - 1 set per school
- Table Photo Holder - staff - 2 per school

Aerial Photograph: Downtown Los Angeles - Western Economic Research Company - 6 per school

Desk Maps:
- Historical Los Angeles Basin - staff - 30 per class
- Los Angeles Civic Center - staff - 50 per class
- USGS Topographic Maps (5 quads) - Geological Survey - 1-3 sets per school

Map of Greater Los Angeles - Cooper Enterprises - 4 per school

Teacher/Pupil Background, booklets/papers:
- Greece - Dr. Logan and staff - 1 per teacher
- Villages Covered Vast Southland Area and other newspaper excerpts - Los Angeles Times - 1 per class

Grade Three (continued)

Teacher/Pupil Background, booklets/papers (continued):
- Rocks and Minerals of California - staff - 1 per class
- Supplement: Independent Activities book - staff - 1 per teacher
- Identifying Minerals - staff - 1 per class
- Book, California Beginnings - staff - 15 per class
- Book, Indians of the Los Angeles Basin - staff - 15 per class
- Book, Greek Odyssey - staff - 15 per class
- Stream Table Investigations - staff - 10 per class
- Indian Songs (3) - staff - 10 per class
- Geography of the Los Angeles Basin (also Grade 2) - El Rancho - 1 per class

Topographic Practice Maps (5) - staff - 50 per class

Transparencies:
- Indians of the Los Angeles Basin - staff - 1 per school
- Los Angeles Basin Topographic Series - staff - 1 per class

Books:
- Bunker Hill, Politi - Scribner - 2 per school
- California's Gabrielino Indians - Southwest Museum - 1 per teacher
- The Chumash Indians of Southern California - Southwest Museum - 1 per teacher
- Chumash Indian Art - UCSB.Art Gallery - 1 per teacher
- An Island for a Pelican - Doubleday - 1 per teacher
- Let's Travel in Greece - Children's Press - 1 per teacher
- My Village in Greece - Pantheon Press - 1 per teacher
- Getting to Know Greece - Coward McCann - 1 per class
- Idea Book, Inquiry - SRA - 1 per school
- The Malibu - Tidepool Gallery - 1 per school
- The California Missions - Sunset - 1 per school

Filmstrips (Commercial):
- Ancient Delphi - Budek - 1 per school
- Athens - Budek - 1 per school
- Greece - Budek - 1 per school
- I Live in Greece - Eyegate - 1 per school
- Isles of Greece - Budek - 1 per school
- The Acropolis of Athens - Budek - 1 per school
- Ancient Greek Sites - Budek - 1 per school
- Los Angeles Basin - Budek - 1 per school
- Then and Now in California - Encyclopedia Britannica - 1 per school
- Discovering Fossils - Encyclopedia Britannica - 1 per school
- Story Fossils Tell - Encyclopedia Britannica - 1 per school

Filmstrips (District):
- Natural Wonders of Zuma Canyon and Pt. Dume - staff - 1 per school
- Topography of Santa Monica - staff - 1 per school
- Malibu Vegetation - staff - 1 per school with tape

Motion Films:
- Angel's Flight - Audio Visual Education - 2 in district
- Archaeologists at Work - Film Associates - 2 in district
- Greece: A Story of Progress - United World - 2 in district
- Indians of California (2 films) - Barr - 2 in district

Grade Three (continued)

Study Prints (sets):
- Common Rocks and Rock-Forming Minerals - Society of Visual Education - 1 per school
- Important Minerals - Society of Visual Education - 1 per school
- Erosion - Wards - 1 per school
- Soils - Wards - 1 per school

Grade Four

Terrain Model, Pacific Ocean Floor Relief - staff - 1 per class

Wall Maps:
- California - Denoyer-Geppert - 1 per class
- Japan - Denoyer-Geppert - 1 per class

Models:
- Geology Models (Landform models) (set of 8) - Hubbard - 1 per school
- Map Reading Models - Van Waters and Rogers - 1 per school
- 3D map of California - Kestler - 1 per school

Stream Table (also Grade 3) - Denoyer-Geppert or SRA - 1-3 per school

Desk Maps:
- Topographic Practice Maps - staff - 50 per class
- California Relief - Denoyer-Geppert - 50 per class
- California Outline - Nystrom - 50 per class
- Japan Outline - Nystrom - 50 per class
- School Vegetation Plot Plans - Nystrom - 50 per class
- USGS Topographic Maps (also Grade 3) - Geological Survey - 1-3 sets per school

Transparencies:
- California Regions - staff - 1 per class
- California Cross Sections (3) - staff - 1 per class
- California (series of 20) - Nystrom - 1 per school
- Japan (series of 16) - Nystrom - 1 per school
- Los Angeles Basin Contour Series - staff - 1 per class

Sea Life Collection (64 specimens) - Hubbard - (4 sets) IMC

Pupil/Teacher Background, booklets/papers:
- Geography of California (4 booklets) - staff - 1 per class
- Pamphlets on various historical sites - agencies - 1 per class
- Resource Material, Japan - Japanese Consulate - 1 set per school
- Resource Material, Japan (Ventura County) - staff - 1 set per class
- California Bicentennial Prints - Standard Oil - 1 set per class
- California Water Kit - California Department of Water and Power - 1 set per school
- Suggested Ways to Introduce the Study of Regional California - staff - 1 per teacher
- Suggested Ways to Introduce a Study of Japan - staff - 1 per teacher
- Suggested Ways to Introduce the Study of Oceanography - staff - 1 per teacher
- Resource Material, California Indians - staff - 1 per teacher
- Book, Oceanography - staff - 1 per teacher

Grade Four (continued)

Pupil/Teacher Background, booklets/papers (continued):
- Pamphlets on vegetation - staff - 1 per teacher
- Miscellaneous newspaper excerpts - staff - 1 per teacher
- Comparative Study, California/Japan - staff - 1 per teacher
- Resource Material - United States Department of the Interior - (5 to a set), 1 per teacher

Filmstrips (Commercial):
- Creatures of the Sea - Life - 1 per school
- Discovering Fossils - Encyclopedia Britannica - 1 per school
- Miracle of the Sea - Encyclopedia Britannica - 1 per school
- The Central Valley of California - Budek - 1 per school
- The Seashore Community - Budek - 1 per school
- The Story Fossils Tell - Encyclopedia Britannica - 1 per school
- Then and Now in California - Encyclopedia Britannica - 1 per school
- Geomorphology (set of 6) - Wards - 4 in district
- Materials of the Earth's Crust - Wards - 4 in district
- Using Natural Resources - Wards - 4 in district
- Resources for Tomorrow - Wards - 4 in district
- Weather - Wards - 4 in district
- Miracle of the Sea - Life - 1 per school
- Landscapes of the Sea - Life - 1 per school
- California Geography (series of 10) - Pacific Coast - 1 per school
- Map of California (series of 10) - Academy - 1 per school
- Urban Uses of Land (series of 6) - Academy - 1 per school
- Japan (series of 8 filmstrips and records) - Schloat - 1 per school
- Filmstrip/Record - Cer Modules:
  - The Arctic - Merrill - 1 per school
  - Sealab II - Merrill - 1 per school

Photographs: Los Angeles Basin Plant and Ocean Life - Jim Abbott and staff - 1 set in district

Vegetation types, schematic drawings - staff - 15 per school

Slides: Alluvial Fan Unit - John Shelton - 1 set per school

Films:
- Map of California: Central Valley - Academy - 1 in district
- Map of California: Highlands - Academy - 1 in district
- Map of California: Lowlands - Academy - 2 in district
- Map of California: Deserts - Academy - 2 in district
- Urban Uses of Land (2) - Academy - 2 each in district
- The Beach: A River of Sand - Encyclopedia Britannica - 1 in district

Super 8 Films (Film Loops):
- Tide Pool Life, Parts I and II - Doubleday - 1 per school
- Ocean Bottoms - Film Associates - 1 per school
- Alluvial Fans - Denoyer-Geppert - 1 per school
- Master Erosion Cycle - Denoyer-Geppert - 1 per school
- Development of Shorelines - Denoyer-Geppert - 1 per school

Study Prints (sets):
- Earth Movements - Wards - 1 per school
- Familiar Cloud Forms - Wards - 1 per school
- Ground Water - Wards - 1 per school

Grade Four (continued)

Study Prints (sets) (continued):
- Landforms of Running Water - Wards - 1 per school
- The Sea - Wards - 1 per school
- Volcanoes - Wards - 1 per school
- Weather Phenomena - Wards - 1 per school
- Oceanography - Nystrom - 1 per school

Books:
- Idea Book, Inquiry - SRA - 1 per school
- A Portrait of Japan - Morrow - 1 per school
- The California Missions - Sunset - 1 per school
- Los Angeles - Sunset - 1 per school
- Beautiful California - Sunset - 1 per school
- California: An Illustrated History - Nostrand - 1 per school
- World Beneath the Sea - National Geographic - 1 per school
- Not Man Apart - Sierra Club - 1 per school
- Oceanography in Print - Oceanographic Education Center - 1 per school
- Exploring the World of Oceanography - Children's Press - 1 per school
- Between Pacific Tides - Stanford University - 1 per school
- California Series, Historical - Union Tribune - 2 sets in district
- Early Uses of California Plants - University of California Press - 1 per school
- Japan - Fideler Publications - 1 per school

Grade Five

Wall Map, World (unlettered) - Denoyer-Geppert (specially produced) - 1 per class

Desk Maps:
- United States Relief - Denoyer-Geppert - 50 per class
- Known World (5) - staff - 10 per class
- Exploration (5) - staff - 10 per class
- European Trade Routes - staff - 10 per class
- Historical (1400-1600), series of 9, with background information - staff - 10 per class
  - Eastern Trade Routes
  - The Viking Map
  - The Piri Re'is Map
  - Toscanelli's Map
  - Johann Ruysch Map
  - Joannes de Stobnicza Map
  - Orontius Finaeus Map
  - Gerald Mercator Map
  - Sir Humphrey Gilbert Map

Study Prints
- Australia - Nystrom - (2 sets) IMC

Filmstrips (Commercial):
- United States Geography Set No. 1 - McGraw Hill - 1 set per school
- United States Geography Set No. 2 - McGraw Hill - 1 set per school
- Australia, set of 9 - Eyegate Films - 1 set per school

Grade Five (continued)

Transparencies:
- United States - Hammond - 1 per school
- United States Historical (set of 13) - Nystrom - 1 per school
- Europe 1490 - staff - 1 per class
- Australia Cross Section - staff - 1 per class
- Australia (distribution series) - Hammond - 1 per school
- Australia (series) - district produced - 1 per school

Motion Films:
- Geography of the United States - Coronet - 2 in district
- American Indians Before European Settlement - Coronet - 2 in district
- Early American Civilizations - Coronet - 2 in district

Pupil/Teacher Background, booklets/papers:
- The Mapping of Vinland - staff - 10 per class
- Vinland the Good Emerges from the Mists - staff - 10 per class
- Background Information for Historical Maps - staff - 10 per class
- Book, It Really Happened - staff - 10 per class
- The Known World, 1400 (Eastern Trade Routes) - staff - 10 per class
- United States History (series of 5 booklets) - Logan and staff - 1 per teacher
- Australia: Sample Unit - staff - 1 per teacher
- Australian Aboriginal Songs (2 dittoes) - staff - 1 per class
- Set of Pioneer Stories - district - 1 per teacher
- Was America the Wonderful Land of Fusang? - staff - 10 per class
- Charts: United States History - staff - 10 per class

Film Loops:
- Australian Aborigines (set of 4) - Ealing - IMC

Books:
- The Age of Exploration - Silver Burdett - 1 per school
- Australia - National Geographic - 1 per school
- Landforms of Australia - American Elsevier - 1 per school
- Smithsonian magazine - 1 per school
- The Australians - Time-Life - 1 per school

Grade Six

Wall Map, Climatic Regions - Nystrom - 1-2 per school

Desk Maps:
- World Relief - Denoyer-Geppert - 50 per class
- Cultures (Africa) - staff - 10 per class
- Ghana Maps (5) - staff - 15 per class

Transparencies:
- Climate and Vegetation (3) - staff - 1 per teacher
- World (series) - Hammond - 1 per school
- Australia (8) - Hammond - 1 set per school
- North America (8) - Hammond - 1 set per school
- South America (8) - Hammond - 1 set per school
- Europe (8) - Hammond - 1 set per school
- Asia (8) - Hammond - 1 set per school
- Africa (8) - Hammond - 1 set per school

Grade Six (continued)

Pupil/Teacher Background, booklets/papers:
- Data on each culture - staff - 1 set per school
- Climatic Regions (6 pamphlets) - Logan and staff - 1 set per teacher

Study Prints:
- Africa - Nystrom - 1 per school

Motion Films:
- Climate and the World We Live In - Coronet - 1 in district
- Village in India - Bailey Film Associates - 1 in district
- An Egyptian Village - Bailey Film Associates - 1 in district
- African Village Life in Mali (6 films) - Independent Film Producers Company - 1 set in district

Film Loops:
- Land Biomes of the World - Eyegate - (2 sets of 8) IMC
  - The Savanna
  - The Desert
  - The Tundra
  - The Taiga
  - The Mountains
  - The Tropical Rain Forest
  - The Middle-Latitude Grassland
  - The Middle-Latitude Deciduous Forest

Books:
- Natural History Magazine - American Museum of Natural History - 1 per school
- People and Places, Book 1, 2, 3, 4 - Rand McNally - 1 set per school
- Vanishing Peoples of the Earth - National Geographic - 1 per school
- Panoramic World Atlas - Hammond - 2 to 6 per school
- Above and Beyond - Milliron - 1 set in district
- Exploring Space with a Camera - NASA - 1 per school
- The Islamic World - Silver Burdett - 1 per school
- Latin America - Silver Burdett - 1 per school
- India and Southeast Asia - Silver Burdett - 1 per school
- East Asia - Silver Burdett - 1 per school
- Africa, South of the Sahara - Silver Burdett - 1 per school
- The Earth - Silver Burdett - 1 per school
- Tropical Africa - Silver Burdett - 1 per school
- Weather - Silver Burdett - 1 per school
- Ecology - Silver Burdett - 1 per school
- The Sea - Silver Burdett - 1 per school
- The Desert - Silver Burdett - 1 per school
- The Mountains - Silver Burdett - 1 per school
- The Land and Wildlife of North America - Silver Burdett - 1 per school
- The Land and Wildlife of Australia - Silver Burdett - 1 per school
- The Land and Wildlife of Eurasia - Silver Burdett - 1 per school
- The Land and Wildlife of South America - Silver Burdett - 1 per school
- The Land and Wildlife of Tropical Asia - Silver Burdett - 1 per school
- The Land and Wildlife of Africa - Silver Burdett - 1 per school
- Switzerland - Silver Burdett - 1 per school

Grade Six (continued)

Books (continued):

The Arab World - Silver Burdett - 1 per school
The Poles - Silver Burdett - 1 per school
Background Notes on Countries of the World - United States Government Printing Office - 1 set per school